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THE MONTHLY FOR RESELLERS

January 1997 Vol.3 No.1

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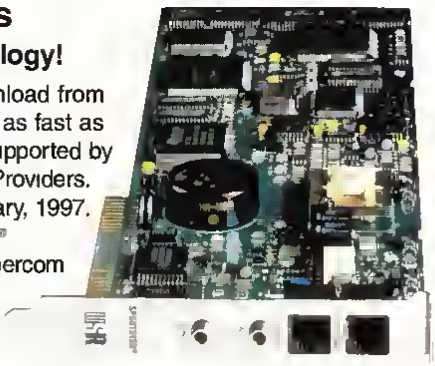

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CONTENTS

JANUARY 97 VOL. 3, NO. 1

HANOHELO COMPUTERS
Windows CE Spawns New Breed of Handhelds 18
By Grace Casselman

MOTHERBOAROS
Special Report The PC Motherboard Market in 1997 21
By Jeff Evans

FORECAST 97
Out With The Old, In With The ...Improved 28
By Gary Davies

This Isn't Your 1996 PC 29
By Alan Zisman

MARKET OUTLOOK
Markets Continue to Look Promising for High-Tech 30
By Thomas Klein

THE NETWORK COMPUTERS
Java, The Network Computer and The Anti-Bill League 32
By Jeff Evans

ACCOUNTING
Home-Based Business: a Growing Market for Accounting Software 34
By Paul Weinberg

LAB TEST
Oesktop Replacement Notebooks 36
By Jazz Bhoon Tim Bingham-Wallis and Steve Halinda

THE PUNOIT
The Next Paradigm Shift 50
By Graeme Bennett

BUSINESS BASICS
Tax Tips That Will Save Resellers Money 52
By Douglas Gray

MARKETING
Telling Your Story 54
By Mark Langton

INOUSTRY PERSPECTIVES
The Personal Workstation 56
By Don Maynard

THE LAST WORO
In Search Of The Ideal 100MB+Floppy Drive 62
By Doug Alder

OEPARTMENTS

The Editor's Desk 6
Industry Flash 8
Canada Watch 14
Nifty Numbers 24
Asiascape 25
New Products 57
People 61
Calendar 61

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What does CE stand for?

Usually big corporations like Microsoft have their marketing messages down pat by the time they go public with the corporate line. In fact, it's not uncommon to hear various company representatives use exactly the same phrasing, analogies and jokes in separate product presentations.

In that light, something a little unusual happened during a recent Microsoft press conference. At the Comdex/Las Vegas tradeshow, a journalist popped up and asked what the CE in Windows CE actually stood for.

"Consumer Electronics," responded CEO Bill Gates.

"No — it doesn't stand for anything," corrected Craig Mundie, senior vice-president, consumer platforms division for Microsoft. "We were looking to create something people would remember — like NT."

"I thought it stood for Consumer Electronics," said Gates, to Mundie.

Then, he shrugged, laughed, and said to the journalists, "I guess we want it to stand for Consumer Enthusiasm."

We Love Our Acronyms

Those who've been around the industry a couple years, will perhaps remember that NT itself indeed once stood for something — New Technology. (Of course NT's not new anymore — but over the last year or so, it's come to be a hot ticket item, particularly when it comes to corporate environments and power users. Maybe these days it's Now Technology, but that's another story.)

This industry is used to acronyms that almost no one understands. In fact, we thrive on it. I swear many industry players made it point of pride to be able to rhyme off PCMCIA without stumbling. Then there's DOS, ASCII, CMOS, RAM, ROM, EISA, ISA, SRAM, WYSIWYG, PCI, FTP, PPP, TCP/IP, IPX, HTTP, IDE, EDO, HTML, SMTP... we could certainly go on!

CE's Significance

However, according to many industry watchers, the operating system itself will stand for quite a lot, and will play a pivotal role in uniting a new computing platform — handheld computing. That is, of course, evidenced by the slew of handheld PCs (or HPCs, according to Microsoft's latest acronym suggestion, which does stand for something) that are hitting the marketplace. (For more on those new systems, please see **"Windows CE Spawns New Breed of Handhelds,"** page 18.)

But if Windows CE makes you think — handheld computer — you're thinking too small, at least according to Microsoft's view of the world. Indeed, that company expects its young operating system will eventually drive a wide range of devices: 'wallet' PCs, wireless-communication devices such as digital information pagers and cellular smart phones, next-generation entertainment and multimedia consoles including DVD players, plus Internet access devices such as Internet TVs, digital set-top boxes and Internet 'Web phones.' (Of note, that's much the same audience that Sun's Java technology is targeting.)

Meanwhile, as looking to the future is always in vogue at this time of year, we've done just that in the pages of this issue. Check out our **Forecast 1997** section, (starting on page 28), where reporter Gary Davies and columnist Alan Zisman examine what's coming your way in 1997. And for an thorough examination of motherboard technology by Toronto Editor Jeff Evans, be sure turn to **"Special Report: The PC Motherboard Market In 1997,"** (page 21).

We also welcome the well-known business author and lawyer Douglas Gray as our new **Business Basics** columnist (page 52). As tax season approaches, resellers should take the time to read through his tips and suggestions as to how you can legitimately keep more of your hard-earned cash.

We at *Canadian Computer Wholesaler* are optimistic about the upcoming technologies and the opportunities for the industry. We're working hard at providing pertinent coverage of the issues that concern the Canadian computing channel. Please drop us an E-mail (ccw@tcp.ca) and let us know how we're doing. We welcome your comments and suggestions.

And, what do you think CE stands for?

Cultivated Excitement?

Competitively Eager?

Confidently Enterprising?

Clever Expansion?

Have a very happy new year. CCW

Grace Casselman
Editor

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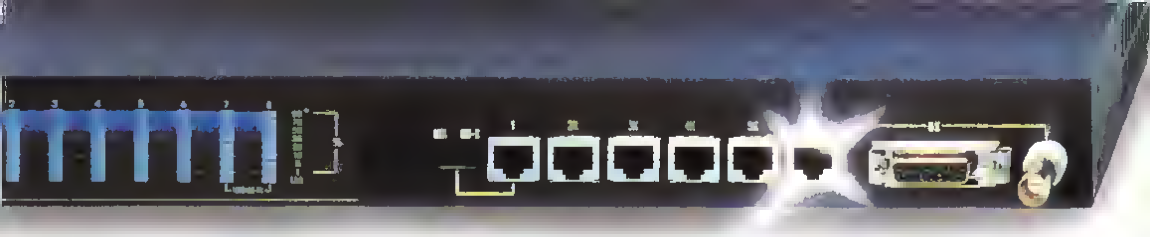

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Sympatico becomes Canada's largest Internet provider

The Sympatico Internet access service, which was launched by Bell in the fall of 1995, has become Canada's largest Internet Service Provider (ISP) in only 12 months, according to Sympatico representatives.

In an announcement made at the Toronto offices of MediaLinx, the on-line design and communications firm that has handled the creation and management of the Sympatico Web site, Sympatico representatives announced that more than 140,000 Canadian households are currently subscribing to the service. More than 85 per cent of Canada's population now has local access to the Sympatico service, and Sympatico hopes to have over 250,000 subscribers by the end of 1997, according to Sympatico.

Bell has heavily promoted the Sympatico service with a vigorous advertising and marketing campaign including a $39.95 book that incorporates Sympatico sign-up and software, and a glossy Sympatico subscriber's magazine. The Sympatico service is regarded by Bell as a key strategic direction, allowing the phone company to gain a piece of the rapidly growing Internet subscriber base in Canada. Though not yet profitable, Sympatico is expected to further enhance its appeal and its revenue by offering new services such as high speed ISDN access, and on-line electronic commerce options.

Bay Networks' business unit targets the SOHO market

Riding the emerging trend towards truly pervasive business networking, Santa Clara, Calif.-based Bay Networks has announced the formation of a new business unit which will offer customized networking solutions for mid- to small-sized business network users, including the small office/home office (SOHO) market.

The new Commercial Business Unit of Bay Networks will focus on affordable networking solutions for businesses with 50- to 1,000- user nodes, as well as selling Netgear networking solutions to small and home office customers.

Bay Network's new division distinguishes itself from the Enterprise Business Unit, which serves large enterprises, and the Internet/Telecommunications Unit, which focuses on cable, telecom and Internet service.

"Rapid, reliable access to information through networking has become a critical competitive weapon for medium and small businesses, making this segment a prime growth opportunity," according to David House, CEO of Bay Networks. The small business networking market is expected by analysts to grow to US$10 billion per year by 1999, and Bay Networks claims "We plan to lead in the commercial market space by addressing both the short and long-term needs with a complete line of products that offer low cost, simplicity, reliability and scalability. The solutions we offer customers can solve their immediate problems and at the same time allow for future network growth."

Specifically, the new division "will deliver low cost hubs, switches and routers focuses on Internet access and remote access along with easy-to-use network management applications," beginning in the first quarter of 1997.

Pointcast Canada named the best on-line business product

The 1996 Online Product Awards, sponsored by Information Highways magazine, has selected the PointCast Canada Network as "Best new Business On-line Product" for the year. PointCast is a user-customizable information and news service that is available for free over the Internet, and which is aimed at corporate computer users. So far, more than 70,000 Canadians have registered as PointCast users.

"We evaluated over 30 new Canadian on-line product, according to the following criteria: innovation and vision, ease of use, technical quality and content. PointCast scored well in all areas," according to Beverley Watters, chairperson of the judging committee.

According to Jennifer Stewart, PointCast Canada marketing manager, "The PointCast Canada Network offers the most comprehensive, personalized range of information for Canadians available on the Internet. It's an information service for the 1990s and into the 21st century." According to Stewart, more than 1,000 new Canadian subscribers are signing up to PointCast each day.

The PointCast Canada Network provides a continually updated news feed on a host of subject areas, from stock market quotes to the *Globe and Mail*, which users can tailor to their own profile of interests. When the user's PC is actively operating another application, PointCast is limited to a narrow banner streaming from right to left across the bottom of the computer monitor. During periods of inactivity, PointCast goes into an 'info wallpaper' screen-saver mode, covering the entire screen display with an ever changing, full screen display of news and advertising.

PointCast can be downloaded from the Internet and subscribed to for free via its Web site, http://www.pointcast.ca.

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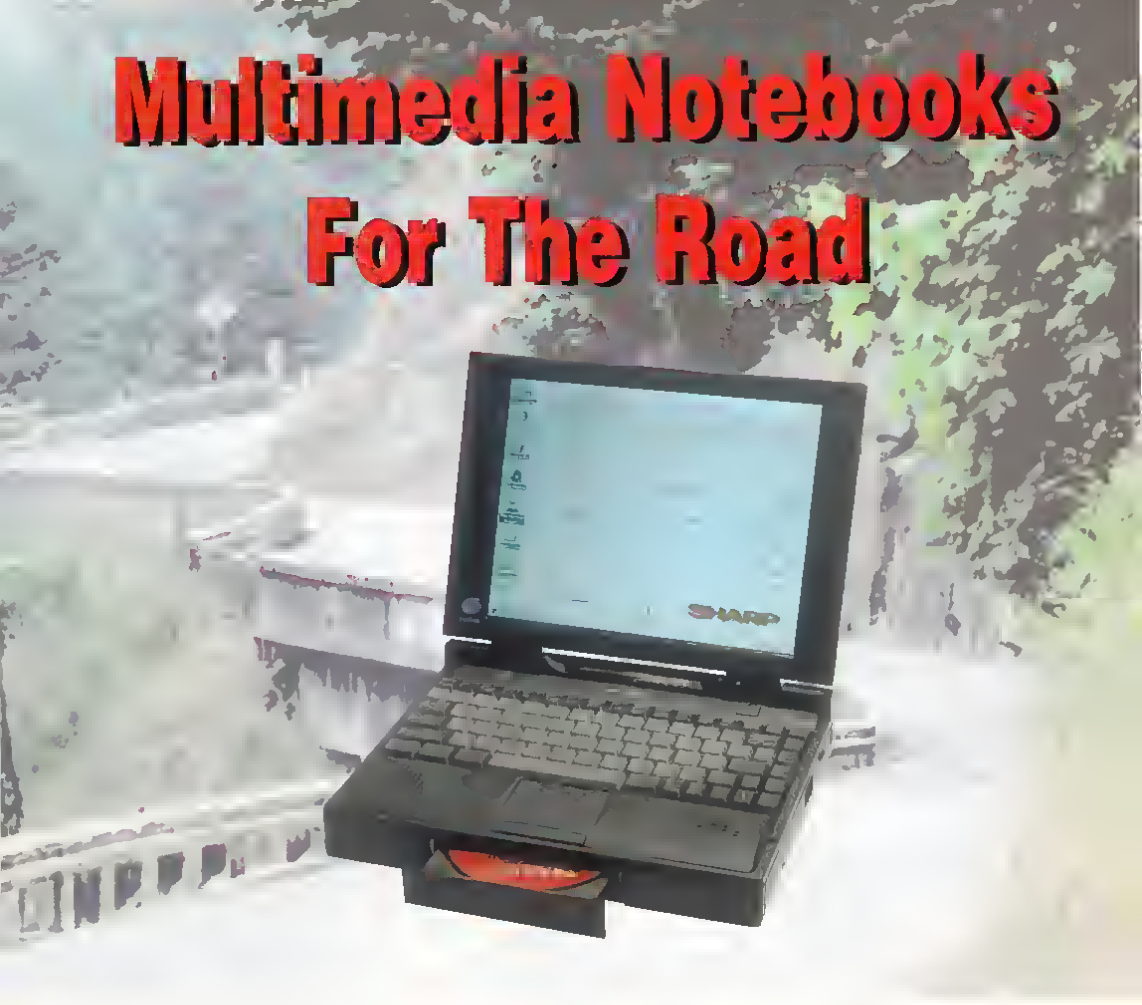

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Industries reach final digital TV standards agreement

(NB) — Next stop, the Federal Communications Commission (FCC)

The FCC is the only hurdle left before consumers can receive digital terrestrial television broadcasting, after representatives from the broadcast, computer and consumer electronics industries recently reached final agreement to press the FCC to adopt a digital television standard.

In a letter sent to FCC Commissioner Susan Ness, FCC Chairman Reed Hundt, and fellow Commissioners James H Quello and Rachelle B Chong, the groups urged the FCC to adopt, with one exception, the Advanced Television Systems Committee's (ATSC) Digital Television Standard (DTV) for digital terrestrial television broadcasting. The exception involves the video formats in the ATSC standard.

The letter was signed by Michael J Sherlock, of NBC, and chairman of the Broadcasters Caucus, Gary J Shapiro, president of the Consumer Electronics Manufacturers Association (CEMA), and Paul E Misener, of Intel Corp, representing the Computer Industry Coalition on Advanced Television.

The letter urged the FCC to adopt the voluntary ATSC DTV standard agreed to by the industry groups. It also stated that the FCC standard "should include language clarifying that data broadcasting is a permitted use under the standard."

The group defines data broadcasting as the "transmission of any type of data other than real-time video and audio programming."

Joseph P Clayton, executive vice-president of Indianapolis-based Thomson Consumer Electronics, said "It's time for the FCC to adopt the digital HDTV standard so that the television industry can enter the 21st century."

FCC approval of a new broadcast transmission standard, Clayton said, "will unleash a new wave of investment and job creation."

According to a study released earlier this month by the Harris Corp, a majority of the nation's broadcasters plan to convert to digital TV within five years after the FCC accepts the standard, with some converting within just two years.

Lava Systems signs resellers to Business Partner Program

Mississauga, Ont -based Lava Systems Inc has signed three Canadian members to its Business Partner Program.

According to Lava — Galahad Information Systems Inc, Fleximation Systems Inc and Tri-Sys Business Solutions Inc will offer Lava's integrated document management, imaging and workflow software to their customers, in sectors including manufacturing, financial services and distribution.

Lava Systems' Business Partner Program was announced last July and gives resellers four levels of participation — ranging from generating initial sales referrals to complete responsibility for product sales and services, including demos, installations, support and licensee training.

Partners receive a scaled discount on Lava software based on their participation level, and gain access to co-op funds for marketing and promotions.

Analysts say technology is ready for a strong year

(NB) — Analysts at Montgomery Securities who attended presentations by more than 150 companies at the company's 14th Annual Technology Week in December said they came away with one conclusion — the tech sector will have a "strong year" in 1997. Companies like Intel, Microsoft and Gateway 2000 were featured at the conference.

After the conference in San Francisco, Montgomery analysts covering different aspects of the tech arena gave their observations about the their specific industry segments. In the data storage area, Montgomery analyst Jeffrey Lin said the demand for storage is "insatiable," and companies benefiting from that need include Western Digital, Seagate Technology, and Quantum.

Software analyst David Readerman predicted an extremely strong 1997 for the sector he charts. He forecasted 35 per cent growth in earnings compared to 1996, with Microsoft seeing a continued strong demand. He called Microsoft stock as one that should be "a core holding" in all tech portfolios.

The "semiconductor inventory correction is over," said analyst Jon Joseph. He predicted that Micron Technology would do well, even though the company suffered an 80 per cent price decline this year.

Companies with officials speaking at the conference created headlines in the financial market last week — enough to greatly affect their own stock prices. Intel shot up US$7.75 in December after an Intel executive said the company's semiconductor facilities are at full production, which translated to very good microprocessor sales. In fact, the exec said Intel is out of capacity, and hopes to produce an additional ten percent of production from its plants in 1997.

Also, Gateway 2000 jumped US$5.25 in December when Gateway CEO Ted Waitt told attendees the company's fourth quarter will be a "strong" one, even though revenue increase from the third to the fourth quarter won't be as strong as it was in the same time frame last year.

Other companies hitting 52-week highs during the conference included SeaChange International, Open Text Corp, and Information Management Resources, Montgomery said.

Kingston Technology gives workers US$75,000-US$300,000 bonuses

(NB) — 'Tis the season to be jolly for Kingston Technology's 530 employees who will receive Christmas bonuses averaging US$75,000, and as high as US$300,000, following a record breaking year for the company, 80 per cent of which was purchased in August by Softbank Corp.

A very generous John Tu and David Sun, founders of the company, have decided to share the wealth of a record-breaking year by distributing US$100 million among the firm's 530 employees. Kingston Technology makes memory, processor, networking, graphics, and storage upgrades for PCs, laptops, laser printers and workstations.

"It's a real family culture," says Hilary Streichenberger. The public relations and special projects coordinator for Kingston said that Sun and Tu set aside money from the sale of the company to give back to the employees. The largest any one employee will get is US$300,000, she said. The amount each person gets will be based on three factors: the length of time they have been with the company, their position, and their job performance.

Forty per cent will be distributed before the end of the year and 60 per cent will be distributed in 1997, she said. The founders want to "be fair to everyone. They don't want to forget anybody," she said, giving the reason for the cautious dole-out. The other reason, she implied, is to prevent shock. "That's a lot of money for some people."

Japan's Softbank Corp acquired a controlling 80 per cent stake in Kingston Technology in September 1996, leaving the rest to Kingston's co-founders, John Tu and David Sun, who hold the remaining 20 per cent.

Kingston Technology is nine years old and is predicting revenues of $1.5 billion this year on annual growth rates of around 92 per cent. The deal with Softbank was the first outside financing of any type since its inception.

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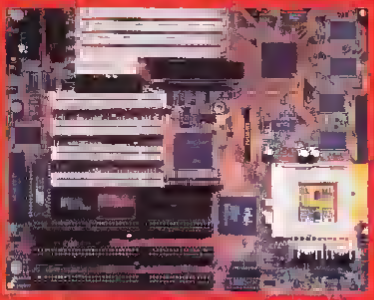

P5H30-NS/WS PENTIUM SCSI

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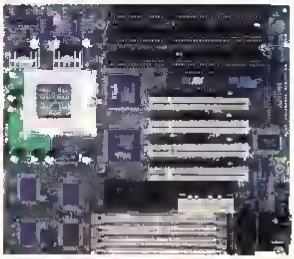

P5V30-B4 PENTIUM VX

Intel® 430VX Chipset, ZIF 7 supports Intel P75 to P200 MHz, Cyrix 6x86 P120+ to P166+ AMD K5, 256K PB, up to 128MB EDO/FPM RAM, Award 1Mbs true Plug'n Play Flash BIOS supports OMI, Green PC, NCR®SCSI BIOS, 4 PCI slots, 3 ISA slots

P6F40-B5 PENTIUM PRO

Intel® 440FX Chipset, ZIF 8 supports Pentium Pro® 150/180/200 MHz, up to 512MB EDO/FPM RAM, Award 1Mbs true Plug'n Play Flash BIOS supports DMI, Green PC, NCR®SCSI BIOS, 5 PCI slots, 3 ISA slots

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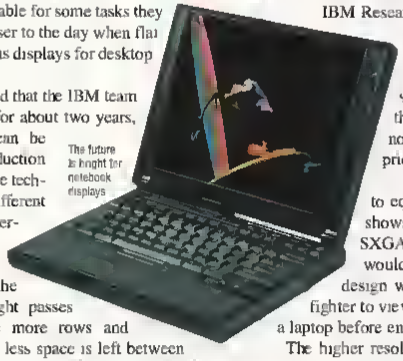
IBM research working on hi-res flat display

(NB) — IBM researchers have found a way of manufacturing a flat liquid crystal display panel with a resolution of 157 dots-per-inch, close to double the 85 dpi common in flat panels today. The researchers said this could make laptop computers usable for some tasks they cannot handle now, and help bring us closer to the day when flat panels replace cathode ray tubes (CRTs) as displays for desktop computers.

Dr. John Ritsko of IBM Research said that the IBM team which has been working on the project for about two years, found that higher-resolution displays can be manufactured on existing flat-panel production lines thanks to a series of refinements in the technology. Part of the secret lies in using a different gate metal, which allows for a higher aperture ratio in a high-resolution display.


The future is bright for notebook displays

On a flat panel, metal conductors are used to carry electrical current along the rows and columns of the display. Light passes through between the conductors. The more rows and columns you pack into a given area, the less space is left between the conductors. This is known as a lower aperture ratio. The solution is to use a different metal — one that can be made thinner and still carry the necessary current — for the conductors.

Other factors in making the higher-resolution screen work include tighter tolerances in manufacturing and changes to the design of other components such as storage capacitors, Ritsko said.

The researchers could not comment on when their technology might appear in commercial products. "We're doing this work in the research division as a feasibility demonstration," Dr. Eric Harris of IBM Research said. However, they agreed that it would be technically feasible to manufacture the displays very soon. As with most new display technologies, the high-resolution screens are likely to cost more at first — though still within the range of top-of-the-line notebooks, Ritsko said — and come down in price as volumes grow.

The new technology would make it possible to equip a notebook computer with a screen that shows 1,280 by 1,024 pixels, equivalent to the SXGA standard found today in workstations. This would make it possible to do computer-aided design work on a notebook computer, or for a firefighter to view detailed blueprints of a burning building on a laptop before entering, IBM said.

The higher resolution would also allow text to be displayed more clearly, which Ritsko said could be a factor in making computer screens easier and more pleasant to read. He said that while no studies have been done on the higher resolution flat panels yet, studies that compared high-resolution CRT screens to lower resolution ones have found that people can read as much as 25 per cent faster on a higher-resolution screen and suffer less eye fatigue.

According to Ritsko, when one of the new screens is placed next to a sheet of paper, "You will read them both and you will say 'I prefer the screen.'"

The resolution possible with the new display technology actually exceeds what is possible today with CRTs, which can only manage a maximum of about 100 dpi, Ritsko said. This could bring the computer industry closer to the day when CRTs will be replaced with flat panels even in desktop systems. That move, which Ritsko said is certain to come sooner or later, would also save space on computer users' desktops.

The new technology would make it possible to equip a notebook computer with a screen that shows 1,280 by 1,024 pixels, equivalent to the SXGA standard found today in workstations

Milkyway expands south of border

Milkyway Networks Corp., based in Ottawa, has opened four sales offices in the U.S. — in Chicago, Atlanta, Houston/Dallas and New York.

In a statement, vice president of U.S. sales, Jeff Sherwood said: "We have strategically located these sales offices and staffed them with experienced sales professionals, to better support Milkyway Network's Premier Partners and end-users."

Milkyway's Black Hole is an application-level firewall that supports Virtual Private Networking using X.500 directories and X.509 certificates. According to the company, it has been successfully evaluated by both the Communications Security Establishment and the National Computer Security Association.

Milky maintains a western region sales office in Santa Clara, Calif., and a federal region office in Washington, D.C.

ISDN groups are planning to simplify ISDN for end-users

(NB) — Integrated services digital network (ISDN) just may get easier to understand and use.

The Vendors ISDN Association Inc (VIA) and the National ISDN Council (NIC) have agreed to work together to simplify ISDN implementation and use for the end-user.

VIA is a non-profit corporation "dedicated to making ISDN more accessible to businesses and individual users." VIA's three initiatives — Switch Identification Initiative (SI), Always On/Dynamic ISDN (AO/DI), and CPE Diagnostics Initiative — are the group's primary focus in the coming months, VIA executive director Deepak Kamlani said. At a joint meeting in Chicago recently, VIA and NIC confirmed plans "to team the efforts of both organizations to simplify and standardize ISDN use."

VIA president Don Mulder said in a statement that the two organizations working together "will lead to greater demand in the market-place for ISDN products and services."

"The joint efforts of VIA and NIC will accelerate the availability of 'plug and play' ISDN for telecommuters, Internet users, users of multimedia teleconferencing products and other end users who need additional bandwidth to work more efficiently in today's society," Mulder said.

According to Kamlani, Switch Identification, the first VIA/NIC initiative, proposes to provide a means for customer premise equipment (CPE) to automatically detect the correct version of the ISDN protocol, either national or custom switch, eliminating the need for the end user to manually enter the information.

The second initiative, Always On/Dynamic ISDN (AO/DI), is a networking service that provides an always-available connection to packet-based data services through the wide area network connection.

It uses existing infrastructure of modern central office switches and existing, or newly emerging, multihok protocols.

Kamlani said that AO/DI offers several advantages over current dial-up practices to packet services. "For the end user," he said, "there is no need to dial-up the service each time access is desired. For the packet service provider, it is possible to give the end-user a notification, such as the arrival of new mail. And for the local exchange carrier, the switched circuit trunk utilization is more efficient."

CPE Diagnostics, the third initiative, is intended to provide a standard approach to diagnostic ISDN testing capabilities in customer premise equipment (CPE), and allow collaborative testing to resolve ISDN related trouble conditions. The initiative calls for a number of diagnostic tools to be incorporated into the capabilities of ISDN CPE.

PC sales boom hikes demand for TFT

(NB) — The boom in personal computer sales has sharply pushed up demand for TFT-LCD (thin film transistor-liquid crystal displays), creating a market with huge growth potential, TFT-LCD companies said.

Larger screens, with a width of 12.1 inches or more, are in even shorter supply.

The market for TFT-LCDs was flat, as recently as the first half of the year. But since July, when the 12.1-inch displays became the mainstay item, demand has exploded, forcing domestic makers to produce 24-hours-a-day. The price of a Super VGA-class display with a 12.1-inch screen jumped from US$650 to US$750 in the first half of the year, but it is still difficult to get sufficient supplies on time, companies said.

In the second quarter of the year, global demand for 12.1-inch TFT-LCD stood at 200,000 units a month, falling below the monthly supply volume of 250,000, they said. Since the third quarter, however, demand has doubled to 500,000 while supply remains at 400,000, resulting in a supply shortage of 100,000 units.

In the fourth quarter, demand more than doubled from the level of the previous period to 1.1 million units, compared with the supply of 800,000, triggering a severe shortage. The shortage is expected to continue through the latter half of 1997.

Currently, only the Japanese and Korean makers, including Sharp, NEC, Samsung and LG, are the sole suppliers of the flat screen displays, with Korea's Hyundai preparing to jump into the market.

Samsung Electronics Co., for instance, has recently started the operation of its second TFT-LCD assembly line, expanding monthly output of 12.1-inch products to 110,000 units, a company official said. Hyundai and LG are about to follow the example of Samsung soon. (DT)

Canadian News

Great Plains Software recognizas its partnars

The Fargo, N D -based provider of accounting and financial management software — Great Plains Software, has awarded the performance of three of its Canadian channel partners

Winnipeg's Momentum Software received the Great Plains 1996 Developer of the Year award for its support of the Dexterity development tools and the creatton of a custom healthcare solution that now has more than 100 implementations

TGO Consulting, of Markham, Ont , was named the Great Plains 1996 Outstanding True Partner, for "cooperation with other partners, consistent marketing and implementation, and customer satisfaction skills " Great Plains says TGO holds monthly customer seminars, produces a monthly customer newsletter and holds users group meetings

Calgary's Callow & Associates Management Consultants won the Eagle Aware for the "ability to budd long-term customer relationships, maintam high customer satisfaction and achieve excellent sales results "

WildCard announcas its Simplified Telephony takaovar

(NB) — WildCard Technologies Inc of Richmond Hill, Ont , said it has signed a letter of intent to buy Simplified Telephony Inc , of nearby Markham, Ontario Simplified Telephony develops computer telephony software, which WildCard claimed it can combine with its own fax server boards and speech recognition technology to create a unified messaging platform

The deal was expected to involve less than 10 per cent of WildCard's outstanding shares plus a small cash component. Paul Wright, currently president of Simplified Telephony, is to become president of WildCard

Intargraph launches TD PCs, targating the 3-D markat-placa

Calgary's Intergraph Canada Ltd had announced its new line of TD PCs and personal workstations to the Canadian marketplace

The company says the new TDs extend Intergraph's 3-D graphics workstation-class capacity to the entry-level 3-D graphics market The new product line includes Pentium-based TD-20 and Pentium Pro processor-based TD-200 PCs, as well as the TD-310, TD-410 and TE-610 personal workstations which include single, dual and quad Pentium Pros

Intergraph says the TDs are aimed at such technical applications as CAD, as well as multimedia applications such as Web authoring The systems can also address typical Windows applications and office automation, says the company

Standard components for the TD-20 and TD-200 are 256KB of secondary cache, up to 256MB of RAM, EIDE hard drives, an 8X CD-ROM (optional for the TD-20), 16-bit audio hardware integrated on the motherboard and Windows 95 or Windows NT, says Intergraph

The TD-20 starts at $2,230, for a 100MHz Pentium system with 16MB of RAM and G76 (1MB) graphics The quad-processor TD-610 starts at $18,650 with 32MB of RAM, G95 graphics, a 2GB hard drive and Windows NT pre-loaded

Supercom opans naw 60,000 square-foot facility in Markham

Senior computer industry and Ontario politi cal figures were present en masse for the opening ceremonies of Supercom's new facility in Markham, Ont , on Dec 5 Supercom celebrated its new 60,000-square-foot facility with hundreds of its employees, suppliers, customers and media

Supercom's Taiwan-based founder, James Fang was in attendance, along with Frank Luk, general manager of Supercom Canada. Senior industry leaders in attendance included Kalil Barsoum and Andre Turgeon of IBM Canada. Markham mayor Don Cousins, and Ontario education minister Dave Tsobuchi also attended and made congratulatory remarks

A traditional Chinese Lion dance for good luck accompanied the ribbon cutting

Left to Right: Antonio Chow, Don Cousins, Frank Luk, Dave Tsobuchi, James Fang, and Charlton Lim

Supercom Canada has been growing in sales at a rate of about 40 per cent per year, and its workforce has expanded proportionately, to a current total of about 220 people The company distributes a wide range of computer products to retailers across Canada, and anticipates continued rapid growth through 1997

The city of Markham, Ont , — just to the north of Metro Toronto, has actively and successfully courted high-tech investors to move to its lower-cost industrial parks, offering a mix of inexpensive office space, low taxes, and a positive political climate as enticements As the concentration of computer firms in the area increases, Markham boosters have taken to referring to their town as "Silicon Valley North."

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NEC launches retail partnar program

NEC Computer Systems Division Canada has announced a new retail partner program to allow more retail distribution of NEC's Ready multimedia PCs The program, titled the More Power To You program, is aimed at independent computer retailers

Greg Myers, vice-president of sales and marketing for NEC CSD Canada stated "We're delighted to establish a new partnership with this important segment of the consumer PC channel The new retail partner program represents a great opportunity for NEC as we look to gain significant market share in the nearly 39 per cent of the market where we currently do not participate "

One feature of the new program is a "One to show, One to go" demo rebate promotion NEC is also offering up to two per cent MDF pass through on Ready sales, a Retail Associate Program to ensure timely delivery of marketing markets, point-of-purchase materials; lifetime price protection of Ready systems to qualified dealers, and a win-a-vacation contest

Telus Launches CDPD Service in Albarta

(NB) — Telus Corp has launched Cellular Digital Packet Data (CDPD) service in the province of Alberta

Commercial CDPD service — allowing customers to transmit data over cellular connections at speeds as high as 19 2Kbps — is due to be available in January throughout Telus Mobility's coverage area, company officials said

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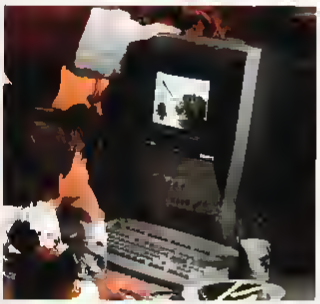
Halifax company wins resaarch grant

(NB) — Brooklyn North Software Works, a two-year-old developer of hypertext tools for the World Wide Web in Halifax, has won the first annual Software Market Research Grant from the federal government's Industry Canada department The grant provides Brooklyn North with $20,000 worth of market information and analyst services from International Data Corp (Canada) Inc of Toronto To qualify for the grant, which will be offered again next year, a software company must have a head office and development facilities in Canada, a product on the market, and annual revenues between $200,000 and $5 million

Compaq Canada aims Presarios at families



Compaq Canada Inc is positioning its Compaq Presario 4000 Series PCs as a system for the whole family, calling it "the ideal gift for the entire family," in its pre-Christmas marketing

Targeting that home market — the systems are big on multimedia with JBL Pro speakers with 16-bit audio, plus GamePlay 3D Graphics with 2MB EDO video memory Moreover, the systems include new Easy Access Buttons — for quick access to the audio CD player, speakerphone, phone messages and sleep mode

Prices range between $2 345 and $3,132

SSA announcas deal with Celestica Inc.

North York, Ont -based SSA Inc has signed a multi-million dollar agreement with Toronto electronics manufacturing services company, Celestica Inc , under which Celestica has licensed SSA's object-based enterprise resource planning (ERP) software solution — BPCS Client/Server

According to SSA, the software will be used by approximately 2,500 people at the Toronto-based electronics contract manufacturing firm SSA says the partnership between SSA and Celestica will extend to joint research and development activities ensuring continued delivery of best-in-class solutions for the electronics industry

Under the contract, Celestica has purchased the Supply Chain Management, Configurable Enterprise Accounting Multi-Mode Manufacturing, Electronic Data Interchange, and Preventative Maintenance products within BPCS Client/Server

The implementation is expected to be complete by January 1999

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[illegible]ractive Communication — Call Teacher Box lets st[illegible]nts catch teacher's attention with an audible beep and [illegible] on the Control Panel Microphone and headphone channe[illegible] immediately turned on when teacher responds to the [illegible]

[illegible] Time Audio & Video Data Transmitting — transmit f[illegible]ion multimedia curriculums to students video tape CD tit[illegible] program, TV Internet etc

[illegible]wer full Broadcast — teaching materials at teacher [illegible] to one a group, or all student stations Even broadcast [illegible]ent's monitor screen to all other students, including au[illegible]

[illegible]mote Observe — teachers can check students progress [illegible]otely observing student's monitor screen, either auto[illegible]lly scrolling from one student screen to another or by ma[illegible]ly selecting a student to observe Moreover teacher ca[illegible] adjust the observe time (1-99 seconds) and can even pause o[illegible] student station and jump to control mode to provide dire[illegible] assistance Teacher can select to receive student's audio, vide[illegible] or both

Control – teacher can control student station's keyboar[illegible] mouse and monitor right from the teacher station Microphon[illegible] and headphone channels are opened for communicatio[illegible] between teacher and student

Reboot — remotely reset one a group or all student station[illegible] Useful for system reconfiguration or even stopping student[illegible] from playing PC games during class

Group — automatically or manually divide student stations into groups of up to four stations per group LED on Control Panel identifies group members Great for language training and group projects

Group Dialog — after dividing student stations into groups allows students in groups to communicate with each othe[illegible] Teacher can listen and participate in any group at any time[illegible] Great feature for language training and group projects

Student On/Off Line Indicator — LED at Control Panel ind[illegible] when a student logs on or off the HiClass System

[illegible] Table — saves student seat position table in [illegible]

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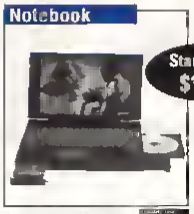

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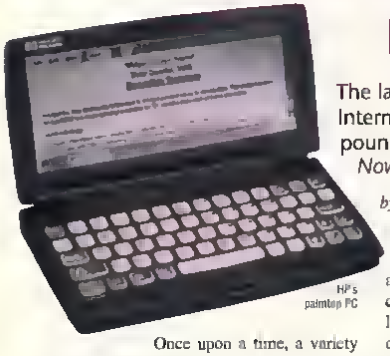
Windows CE spawns new breed of handhelds



HP's palmtop PC

The latest computers on the market let users access their E-mail, the Internet, plus desktop productivity applications from a low-cost sub-one pound system with battery life of up to 30 hours.

Now — will your customers want to buy them?

by Grace Casselman

Once upon a time, a variety of vendors launched a number of very small light-weight computing devices in to the market — sometimes called handheld computers, sometimes called personal digital assistants. Many were little more than glorified schedulers. They were proprietary designs and technologies, and many lacked easy interoperability with the desktop. Some had infrared capability but the applications seemed limited; and of course, some boasted handwriting recognition technologies — and the critics had a field day.

Perhaps not surprisingly, the market response to those first-generation handheld devices ,was to say the least — lackluster.

Yet the systems weren't without appeal. They were wonderfully light-weight and relatively inexpensive. They had substantial battery life — and best of all, they were extremely portable.

Now, a whole new breed of handheld computers is appearing on the market — and they're prepped for the critics and the naysayers. Moreover, despite the dubious past of handheld computing, these new systems are already garnering widespread attention.

Of course, there's a heavy-hitter on the side of these young offerings, none other than Microsoft Corp., with all the marketing weight only that industry giant can wield.

Seeing a need for standardization — and an opportunity to extend the breadth of computing, the software vendor has launched a new incarnation of the Windows operating system especially targeted at mobile computing devices.

And the industry seems to be on board. At Comdex/Fall in Las Vegas — Casio Computer Co., Compaq Computer Corp., Hewlett-Packard Co., Hitachi Ltd., LG Electronics Inc., NEC Corp. and Philips Electronics were all demonstrating Windows CE-based handheld computers.

NEC Mob ILPro HPC

"We really think this is going to open the dam for acceptance by mobile professionals," said Sheldon Safir, director handheld products for NEC Computer Systems Division, at Packard Bell NEC Inc., in Mountain View, Calif. "If I can just carry this and get my E-mail on it, that's a tremendous advantage."

Safir said industry estimates predict sales of 1.2 to 1.5 million handheld units into the market-place in 1997. "I prefer to be cautiously optimistic," he said.

Jon Magill, director of marketing consumer appliance group, consumer platforms division for Microsoft Corp. said that Microsoft examined the handheld market which "hasn't been very successful to date," and decided that to deliver real functionality and productivity applications — "We knew we had to get a platform."

He added: "Initial interest is very high."

On the application development side, Microsoft says things should look familiar as Windows CE supports a subset of Win32 APIs. At Comdex, the company announced that more than 600 developers had enrolled in the Windows CE Technical Beta Program, and more than 90 companies had already announced products for the platform.

"Previous handheld products were all on different platforms. The common platform will see a lot of people developing for horizontal and vertical markets," forecast James Schraith, vice-president and general manager for North America, at Compaq Computer Corp. "It's a new large market."

According to Microsoft, Windows CE is a 32-bit, multitasking, multithreaded operating system engineered for high performance in limited memory configurations. It includes integrated power management to promote long battery life on mobile devices, and supports a growing list of microprocessors. At press time, those included the H-3 processor from Hitachi Ltd., the VR4101 processor from NEC Electronics Inc., the TwoChipPIC, the PR31500 and the UCB1100 from Philips Semiconductor. In December, Microsoft announced plans to port Windows CE to the Motorola Power PC.

Philips Velo 1

and ARM microprocessor families

The GUI is similar to the familiar Windows interface on many desktops, and communications support is built in, for E-mail and Web access via Pocket Explorer (a version of Internet Explorer) Common desktop productivity applications are supported through Pocket Word and Pocket Excel According to Microsoft, the mini-OS will also support "companion applications" — CE based applications that share (and/or synchronize information) with Windows counterparts

Compaq PC Compan on

Not only has Microsoft launched this operating system, the company plans to exert a firm hand over the direction of the handheld market with strict specifications for Windows CE-compliant products Here are some of the base product specifications

- a "pocketable" clamshell form factor,
- the traditional QWERTY keyboard,
- a 480 by 240 by two-bit-per-pixel LCD touch screen with stylus,
- a minimum of 4MB upgradeable ROM,
- a minimum of 2MB of expandable RAM,
- IrDA-standard infrared support,
- a serial port,
- a PCMCIA Type II slot,
- .wav sound, and,
- LED notification

Microsoft also supports an optional docking station

All that standardization was necessary, said Microsoft's Magill, "because we had to turn this into a platform the ISVs could write software for"

While Microsoft won't go so far as to suggest a retail price, the company has stated street prices for base configurations are expected to start at about US$500.

Compaq PC Compan on

While adhering to the basic specifications for a Windows CE machine, the various vendors are customizing their machines for competitive advantage For example, on Nov 18, Philips Mobile Computing Group announced the Velo 1 handheld PC, aiming to "provide the equivalent functionality of a conventional notebook PC without the weight, inconvenience, and high price

"The Velo 1 is configured with everything a busy professional needs, right out of the box To achieve this, we have gone well beyond the base Windows CE applications and added extensive communications capabilities and expansion options that will keep the Velo 1 useful for years to come," claimed Alan Soucy, general manager of the Philips Mobile Computing Group

The main features that differentiate the Velo 1 from a number of other Windows CE hand held computers unveiled at the recent Comdex in Las Vegas include an integral 19 2Kbps modem, fax-send capability, access to cc:Mail and MS Mail, an RJ-11 jack, and the Velo Voice Memo, an integrated voice recorder The Velo also has a back-lit screen, a high-speed TwoChipPCI chipset and a variety of power options including AA batteries, NiMH rechargeable battery pack, and AC adapter The main processor is a MIPS 3910 RISC, which provides high processing speed An optional Velo Dock enables simple transmission of data to and from a PC

MessagePad 2000

The Velo 1 is expected to ship in early 1997, for prices ranging from $795 to $950, depending on configuration

Hewlett-Packard (Canada) Ltd claims its new HP palmtop PC will offer "the industry's widest display among products for Windows CE," with an 80-column, 640 by 240 LCD display The system is expected to be available in mid-1997 "This new palmtop PC will help mobile professionals manage all their important information while they are on the road," said Angela Burns, product manager for HP's handheld computing products in Canada, in a statement

Jason Jung, product manager for information systems at LG Electronics Canada Inc , in Mississauga, Ont said his company plans to launch its LG Handheld PC in March It will ship with 4MB of RAM, plus a fax modem Target users, he said, include business managers, high-end

MessagePad 2000

Apple a contender with new Newton

While the market reception of Apple Computer Inc 's first Newton may not have been all the company was hoping for, the company is expecting a different story with the recent launch of its MessagePad 2000 system

"It's changed," said Donna Church, product manager at Apple Canada Inc , of Markham, Ont And the company's not talking about PDAs these days "The 166MHz RISC processor moves it into the category of handheld PC "

In fact, she said this system is 10 times faster than the previous Newton, Moreover the system now supports up to 24 hours of battery life It includes a spreadsheet, word processor, E-mail package and Web browser "It allows users to synchronize files and download from the computer to the MessagePad and upload back to the computer It's designed for people who are mobile and need access to applications " said Church "

Other features include two PCMCIA slots, a built-in microphone and speaker, support for 16-shade greyscale images, an optional back-lit display, an optional plug-in keyboard, and a weight of less than 1 5 pounds

Jim Groff, senior vice-president and general manager, information appliance products at Apple Computer, said the system would be attractive to mobile business professionals "I predict Gary Trudeau will not get comic material out of this generation of products," he added

The MessagePad 2000 starts at $1,299

At that price point, Apple won t be hitting the "magic US$500" price point required for a broad audience, said International Data Corp analysts Diana Hwang and Randy Giusto in *Smart Handheld Devices Biweekly Update* At that price, they say the MessagePad 2000 will be considered a vertical market device, and one geared to mobile professionals Morever, they say it will compete with inexpensive notebook computers

They wrote: "Apple's challenge will be to educate potential end-users on the features and cost/benefits of using the MessagePad 2000 "

customers and "People who are using a desktop PC in their home or office but are still hesitating to buy an expensive notebook. We are targeting that customer." Pricing will be US$500, he said.

With its MobilePro HPC, NEC says it has especially designed its keyboard for ergonomics, to deliver a "truly usable compact keyboard."

Casio Cassiopeia

"You can adjust the sensitivity of the keys," said NEC's Safir. Moreover, NEC is differentiating itself by offering a back-lit screen, 8MB ROM, and up to 30 hours of battery life on AA batteries. A 2MB of RAM version is US$499, and an 8MB RAM version is US$649.

But Safir points out that these are the first-generation CE machines, and said users should expect advances into the future — such as better screens and battery life.

Compaq has signed an exclusive licensing agreement for Mail on the Run! From River Run Software Group, which will ship standard with every Compaq PC Companion to provide direct and remote access to such E-mail systems as Microsoft Mail and Lotus cc:Mail. The company says it's also including DataViz Desktop To Go for Windows CE, to add the capability to synchronize, import and convert files with a number of applications and word processing files.

At Comdex, Compaq also announced a partnership with SkyTel to provide two-way wireless messaging services as an option for the Compaq PC Companion. Customers can send and receive E-mail wirelessly by connecting to a SkyTel 2-Way pager.

Compaq Canada Inc. is selling the Compaq PC Companion for suggested list prices of between $799 and $1,129.

In its *Smart Handheld Devices Biweekly Update*, International Data Corp. analysts Diana Hwang and Randy Giusto wrote: "Compaq's strengths in the retail, corporate, VAR and system integrator channels will enable the company to have a head-start over others when selling the handheld device as an extension to a desktop or notebook PC."

The analysts also suggested it will be a significant challenge for resellers to give the small units sufficient prominence in their stores. They recommended setting up a display demonstrating the communications and synchronization between the handheld computer and a desktop PC. Moreover, they suggested allowing potential buyers to try the systems, rather than keeping them "under lock-and-key." They wrote: "One of the big challenges for computer vendors will be to encourage retailers such as computer and office superstores to display the handhelds so that they are not lost in the store."

— *with files from Jeff Evans.* CW

Grace Casselman is Editor of Canadian Computer Wholesaler. She can be reached at gracec@netcom.ca

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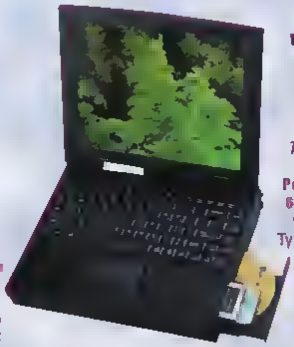

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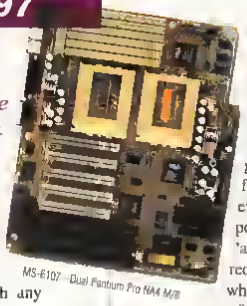
Special Report:

The PC Motherboard Market In 1997

by Jeff Evans

Under the hood of your systems, a host of players are battling to provide the core motherboard technology. What do they have planned for this new year?



MS-6107 - Dual Pentium Pro NX4 M/B

The "motherboard." It might not get anywhere near the glory and attention that's routinely reaped on the microprocessor — but a quality motherboard is critically important in the make-up of a computer system.

Let's lift off the case — for a closer look.

All desktop PCs are built around a main circuit board, called the motherboard, which typically contains many of the major components of a personal computer (such as the central processing unit, BIOS and memory chips). The motherboard also has a variety of connectors for the expansion cards, storage devices and ports which together make a computer an integrated, useable information tool. The design and quality of the motherboard is perhaps the largest factor in the level of performance and the subsequent life cycle of the computer. The best motherboards enable significantly lower maintenance costs, better performance and easier expansion than less well designed ones.

Although one chip-maker — Intel, has come to dominate the CPU market, there is no similarly dominant maker of motherboards. Intel is one of the largest motherboard makers, but many of the name brand PC makers, such as IBM, Compaq, Digital, and AST have produced custom-designed motherboards for at least some models in their product lines to compete with Intel's offerings. As well, a host of third-party manufacturers, many based in Pacific Rim Asian countries, offer an ever changing array of motherboard models for the 'clone' market. With tens of millions of Windows/Intel computers being sold annually, the motherboard industry is one of the most important components of the computer industry.

MS-5145 - PCI Pentium TX1 M/B

The Way We Were

The mix of motherboard products on the market reflects the short life cycle of PC products generally. In order to sell quickly and with any reasonable margin, resellers have to stock only the latest, best-featured, best-priced, and 'hottest' motherboards, and always have to be on the lookout for the next wave of motherboard models. About three years ago, the PCI (Peripheral Component Interconnect) bus standard began to be introduced in quantity, displacing the VESA bus. Today virtually all desktop PC motherboards have several PCI slots, as well as a few older ISA slots. As well, over the course of 1996, sales of motherboards for Intel 486 processors have declined to near zero, while Pentium has become the mainstream, and Pentium Pro motherboards have quickly ramped up in sales to the point where they are a significant percentage of motherboards sold.

The Way We Are

Vendors who supply motherboards complete with CPUs and RAM report that motherboards fitted with a 166MHz Pentium are pretty much the current "entry-level" option. 16MB of RAM and 256K of pipeline burst cache is also the minimum standard. The jump from 8MB of RAM as standard to 16MB has been driven by the introduction of Windows 95, particularly for home computer buyers, and the drop in RAM prices. Most current motherboards have at least three PCI slots and two or more ISA slots. Most current motherboards also conform to the Intel "ATX" form factor.

The Way Ahead

All the motherboard vendors *CCW* talked to suggested that the trend in the future will be towards motherboard technology that supports a low-maintenance "appliance" type of PC requiring much less tinkering when adding new hardware or software to the system.

Much as the Apple Mac pioneered ease-of-use and lower cost of ownership by integrating multimedia and networking on the motherboard, PC motherboard makers are trying to offer as many features as possible as simply and cheaply as possible.

Motherboards will increasingly be offered with a wide range of capabilities built into the motherboard which previously demanded third party cards to achieve. For example, motherboards with SCSI controllers built in are increasingly popular. Instead of having to install and configure a SCSI adapter card, users simply plug in the first SCSI device to the connector on the motherboard, and then daisy-chain additional devices to the first.

Many vendors are working towards a "jumperless" motherboard, where the computer will automatically detect and use any additional devices that have been connected to it, without the requirement to reset jumpers. Advanced power and system management features are also being built in on motherboards to reduce power consumption.

Pentium Pro motherboards, including dual processor versions, will grow rapidly in market-share.

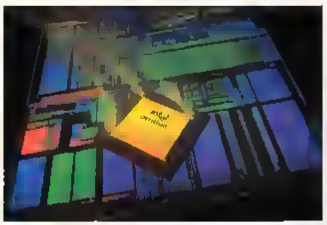
NLX Debuts For 1997

On Nov 14, Intel and a large number of third party vendors, including IBM, announced a new motherboard form factor spec call NLX, a motherboard standard that is designed to greatly reduce the cost of maintenance of the PC. The NLX form factor is intended, for

example, to allow the motherboard to be dismounted from the PC case easily and quickly. Over the course of 1997, it can be expected that NLX will begin to displace ATX form factor motherboards

Intel's Place In The Market

As the maker of the 486, Pentium and Pentium Pro chips, Intel defines today's PC motherboard market. The Power PC-based Apple Mac continues to exist within a restricted and shrinking niche various 'clone chip' makers such as AMD and Cyrix compete to produce Intel compatible CPUs for a small percentage of PC buyers, and exotic CPUs such as DEC Alpha, MIPS and PowerPC contend for some specialized Windows application areas such as 3-D animation. To all intents and purposes though, Intel owns the desktop PC chip market, and motherboard makers base their decisions on this fact.



Intel is a major maker of motherboards itself, but the company recognizes that it is in its own self-interest to cooperate with competing motherboard makers. According to Tim Teckman, general manager, corporate client business unit, at Intel Corp., Intel's motherboard business amounts to "billions" in sales annually, but Intel's number one objective in developing motherboard technology "is to ease the burden of processor transitions on the marketplace, to set common standards, and resolve motherboard and system problems related to new processors, so that end-users can get the benefits of new technology more easily." Thus, it's in Intel's interest not to drive competing motherboard makers to other CPU makers. "Coopetition" is the name of the game.

Intel intends, according to Teckman, to "promote and deploy new motherboard technologies, such as Universal Serial Bus (USB), RAM bus technology, automated manageability, clientserver management, hardware monitoring, and desktop management interface (DMI) technology, boot sector virus detection, etc." All this effort is made with the intention of raising the performance and lowering the complexity and cost of ownership of the PC for the end-user. Intel "doesn't discourage other manufacturers from developing their own BIOSes and extending the core BIOS functions — Intel itself is involved in developing new BIOS technologies as it supports our objectives," says Teckman. The company is predicting a rapid transition to Pentium Pro in 1997, leading to that processor dominating most of the market by the end of the year.

When asked about jumperless motherboards from Intel, Teckman paused and said "that's not part of the NLX spec. It's interesting technology, but there are no announcements on that from Intel right now. It'll probably happen." Also on the agenda for future Intel motherboards in 1997-1998 is direct SCSI support for business motherboard models ("Enhanced IDE is the best price/performance choice for home users," Teckman states), video capture on the motherboard, increased cache ("especially for Windows NT-have you ever tried to boot a PC running NT without any cache?"), a transition from EDO memory to SG RAM, higher use of infrared communications, consumer home networking, low power modes, power management, and "smart home" control features.

As far as motherboards for Java devices, Intel intends to produce the "best of class" in the new network computer (NC) market, but it doesn't anticipate any harmful impact on its PC motherboard market. The lack of high-powered Java applications and limitations in existing networking infrastructure will likely hold back large scale sales of Intel NC products until 1998.

Pentium chip

The Contenders

Aside from Intel, the Canadian motherboard market is dominated by a number of other motherboard suppliers. Below is a brief list of some of the major players.

ABIT Computer Corp. announced a notable motherboard first at the end of October, when it announced the first Jumperless PC motherboard. The Award BIOS CMOS setup utility has been expanded with a new option called Soft Menu which either automatically detects the model of

Contact: The Editor

LETTERS

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CPU and its speed, or allows the user to make customized selections The jumperless SOFT MENU technology makes configuration and upgrading of a system much easier, and can be checked out at ABIT's Web site — http://www.abit.com.tw

Acer manufactures a line of AcerOpen components, including motherboards, all of which feature power saving modules and power-management chips to optimize energy allocation Pentium based models include the AP53 and AX53 models, with Intel 430HX chipset and 256K/512K pipeline cache, and the AP 5VM, with Intel430 VX chipset Pentium Pro models include the AP65 and AX65, both based on an Intel 440FX chipset, and compatible with CPUs up to 200MHz

ASUS is one of the best recognized motherboard brands in Canada, with a full line of Pentium Pro and Pentium boards, including ATX models

The Biostar Group offer a line of motherboards that range in capability from the 8500TVX, compatible with Pentium 75MHz to 200MHz up to the 8600 TTX, a Pentium Pro model with the ATX form factor and an on board IDE adapter

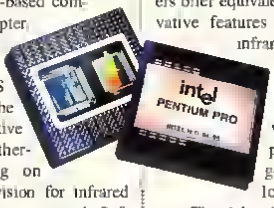
Markham, Ont.-based EMPAC is the exclusive distributor of the Micro-Star system board line to OEM customers, VARs and system integrators The MS-6017 is a dual Pentium Pro board for servers and "personal workstations" This model is based on the Intel 440FX PCI chipset According to Micro Star's 1997 product roadmap, some of the new Micro-Star models in early 1997 will feature DIMM sockets for RAM, ATX form factor, and will incorporate the new Klamath technology

MS-6108 Single Klamath NA5 M/B

Daiwa Distribution Inc handles the Lucky Star Technology Co 's motherboards, including the 31-VX1 Pentium main board, which is compatible with Intel, AMD and Cyrix processors.

QDI, a subsidiary of the Legend Group, a Hong Kong listed company, has a considerable internal R&D capability, and develops its own BIOS. In business for eight years, and in Canada for 4.5 years, QDI sell up to 20,000 motherboards per month in Canada. A company representative claimed that QDI motherboards have a very high reliability, combined with low cost QDI motherboards come with a two-year warranty QDI has also introduced its SpeedEasy technology for jumperless installation or upgrading of the motherboard

Tekram is a new arrival on the Canadian Pentium motherboard scene In addition to motherboards, the Taiwan-based company also makes SCSI adapter, infrared communications and video capture boards Tekram has its own BIOS programming team, and the company has some innovative features on various motherboard models, including on board SCSI control, provision for infrared ports, and support for ATX power supply Soft Power On/Off



Two little known success stories in the Canadian PC market are Seanix Technologies Inc of Richmond, B C , and Digital Equipment of Canada Ltd. both of which manufacture high-quality PC motherboards for their own brand name PCs

DEC's Canadian operation won the company's international Americas Mandate competition to manufacture Intel-based motherboards and systems in 1992 and supplies boards and PCs for the U S , Canadian, and Mexican markets DEC makes the motherboards at its Kanata, Ont. facility near Ottawa Currently the company averages about 3,000 motherboards and assembled PCs per day The product mix currently runs about 50 per cent Intel-based motherboards (largely for the Venturis PC line), and 50 per cent motherboards based on DEC's own Alpha chip

Seanix manufactures motherboards for the Canadian OEM market, based on Intel CPUs and chipsets, from a highly automated facility equipped with high-speed surface mount technology and through-hole assembly lines, with a throughput capacity in the tens of thousands of components per hour Motherboard models include the OEM-1 HX Pentium motherboard intended for the home and small business market. This model is compatible with Pentium processors up to 200MHz, and is based on the i82430HX chipset The OEM-1 PRO motherboard is based on the 182440FX chip-set and is compatible with Pentium Pro CPUs up to 200MHz in speed It's intended for inclusion in PCs used in demanding, high-performance professional applications

What's In A Name?

Intel benefits from a much greater brand recognition than the 'clone' motherboard makers, but many of these alternative suppliers offer equivalent quality and, often innovative features such as on board SCSI, infrared options, sophisticated power management, as well as lower prices In general, companies that survive in the Canadian computer market have to offer good quality and price/performance

The 'clone' motherboard market is a ruthlessly competitive one — there was a glut of 486 motherboard makers struggling for market share a few years ago, and many were forced out of business as margins reached zero Resellers can expect that in 1997, the Pentium motherboard market may duplicate the 486 market's experiences, while the Pentium Pro motherboard market may offer some greater margins, at least briefly

Jeff Evans is Toronto Editor for Canadian Computer Wholesaler He can be reached at jeff@tcpon.ca

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Nifty Numbers

Home computing on the rise in Canada

According to *The 1996 Household Facilities and Equipment Survey* from Statistics Canada, 3.6 million Canadian households — or 31.6 per cent, had a home computer in 1996, up 365,000 from the year before. And 1.6 million households (14.1 per cent) had cellular telephones.

StatsCan says surfing the 'Net was still a relatively new phenomenon for most Canadians last year — as only 7.4 per cent of households access the Internet from the home.

In 1996, 1.8 million Canadian households had a computer with a modem but only half of those had used the Internet.

Of note, almost 38 per cent of households had computers in Alberta and B.C. As well, those provinces had the highest proportion of households on the Internet — about 10 per cent each.

New Brunswick and Newfoundland had the lowest figures — as only about 22 per cent of households in those provinces had computers.

Source: Cia Consumer Technology Index/Claritas — 1996

Survey Details The Lifestyles In PC Homes

What does the typical PC-owning household look like?

They tend to be upscale, with incomes of upwards of US$50,000. Younger households (18 to 34) with children are less likely to buy PCs than 18- to 34-aged households without children. But older households (35 to 54) with children are more likely to buy PCs than those without children.

That's all according to the recent *Consumer Technology Index* by Computer Intelligence and Claritas.

Households aged 55 to 64 — especially those in Claritas's "Traditional Families" and "Mid/Upscale Suburbs" categories — were also "very likely" to have purchased desktop PCs.

Overall, computer owners tend to: have college degrees, be employed in professional or managerial positions, to have three or four person households, and to be 35 to 54 years old.

Who Are PC Owners?

THEY DO:

Downhill ski
Belong to a health club
Take domestic business trips
Belong to a business club
Listen to daytime jazz radio
Listen to classical radio
Listen to all-news radio

THEY DON'T:

Smoke menthol cigarettes
Go to rodeos
Belong to a fraternal order
Follow professional wrestling
Watch early evening weekend TV news
Watch TV from 9 a.m. to 1 p.m. weekdays
Listen to Big Band/Nostalgia radio

Voice Your Opinion!!
Reader Poll

While the handheld market has so far been sluggish, many industry players are saying that's all about to change. Microsoft has launched its Windows CE operating system for portable devices, and an impressive number of hardware vendors have announced handheld computers adhering to the Windows CE specifications. Microsoft says having a standardized platform will encourage other software vendors to write products to address that market-place.

Along with the to-be-expected scheduling functionality, these new handheld systems include stripped-down versions of Word, Excel and Internet Explorer. Many industry analysts predict the E-mail/communications functionality and the ability to access basic desktop compatible productivity applications via a lightweight low-price device will be attractive to the market-place. But, what do YOU think?

Our question to you:
Do you expect that the new handheld computers coming onto the market based on Windows CE will

❑ Be very hot sellers ❑ Have some attraction for certain users ❑ Not have much appeal

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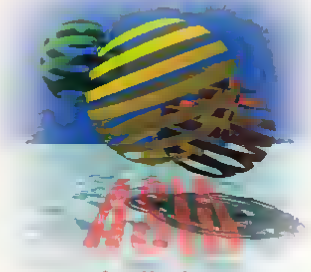


from Newsbytes

Japan has developed new multimedia E-mail system

Japan's government and a division of Nippon Telegraph and Telephone have jointly developed a new electronic-mail system for video and audio messages that saves bandwidth compared to conventional systems. The new system reportedly sends just digest versions of large multimedia files to recipients who can then decide whether to view them.

The system was developed by the Communications Research Laboratory of Japan's Ministry of Posts and Telecommunications and NTT's Multimedia Networks Laboratories, and has been named the Video and Audio (VA) Mail System.

With existing E-mail systems, such as those used on the Internet, video or audio files are sent directly from user to user. Under the VA Mail System, the sender first uploads the video files to a video-on-demand (VOD) server. A text message with a digest of the video, in still images, is sent to the recipient, who can then decide whether to view it and when.

VOD servers on the network also communicate with one another so large video files can be transferred during off-peak hours. This then reduces network load if the recipient chooses to view the file after it has been transferred. The load on mail servers, and the mail network, is also reduced because video files take a different route.

By keeping the images on a VOD server, the recipient can also use functions such as fast-forward and reverse-playback. The MPT said its new system is designed to be used with standard resolution (640 by 480 pixels) with MPEG-2 (Motion Picture Experts Group type 2) compression.

Research work on the new system will continue, said the MPT, and will tackle issues such as interconnection between different types of VOD server.

Korea outlines policies for 'Infocommunications' industry

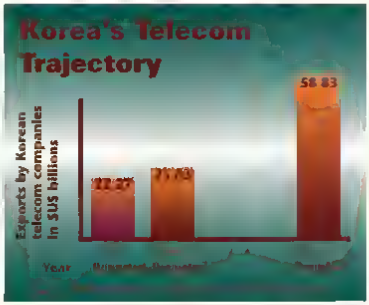
Unveiling a set of comprehensive long term policy directives on the development of the local "infocommunications" industry recently, the Ministry of Information and Communication (MIC) said that the government will drastically ease regulations and expand investment and human resource training programs.

The policy directives, covering telecom equipment, software, multimedia contents and all other fields of telecom industry, were worked out on the basis of a total of 11 rounds of discussion meetings from Oct. 10 to Nov. 8, which were presided over by MIC Minister Kang Bong-kyun.

As for the privatization program of Korea Telecom (KT), the government will lower its equity in KT from 80 percent to 49 per cent in the first quarter of 1997. Acquisition of foreign software makers and high-tech companies will also become much easier from 1998 under the government's plan to intensify fostering the domestic software industry.

To develop the local software industry, the MIC will lead businesses to establish 500 new software companies here over the next five years. "The world's telecom equipment market is expected to grow by an annual average of 6.4 per cent over the next five years, creating a US$1,12-trillion-a-year industry in 2000," said Chong Hong-sik, assistant minister at the MIC.

The MIC will also send telecom attaches to Korean embassies in European Union, China, Russia and Vietnam in order to back up telecom companies' information-collection and R&D activities. The ministry will set up bilateral telecom cooperation committees with Vietnam, Brazil and Tunisia in 1997, raising the number of countries maintaining such committee-level relationship with Seoul to 10. The number of countries that sign memorandum of understanding (MOU) with Korea in the telecom industry will also rise to 16, as four more countries — Brazil, Chile, India and Israel — will enter into the MOU relationship next year.



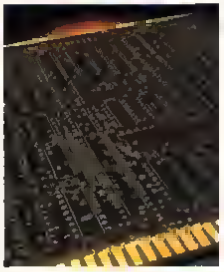
Bilateral telecom ministers' talks with Japan, China and Russia will be held on regular basis in the coming years.

Exports by Korean telecom companies, which totaled US$22.27 billion last year, are expected to reach US$25.83 billion this year. The export volume will again climb to US$58.83 billion by 2001.

"Korean enterprises have generally concentrated on the markets of underdeveloped countries. From now on, however, the government will lead them to expand investments in PCS, satellite communications and other hi-tech fields in advanced countries," Chong said.

Tokyo Electron to build new plants in United States

Japanese semiconductor manufacturing equipment maker Tokyo Electron Ltd. has confirmed it will construct two new manufacturing plants in the United States. *The Nihon Keizai Shimbun* newspaper said Tokyo Electron will build a new plant in Austin, Tex., by 1998, and is also considering a facility in suburban Boston.



The company opened its first U.S. plant in September 1996 when it began production of vapor-deposition equipment and diffusion furnaces in Hillsboro, Ore. The new Austin plant will produce machines that coat and develop photosensitive circuit boards and chips. Construction of the factory is due to begin in spring 1997, said the newspaper.

The company is planning to produce chip etching equipment at the Boston site. It has not decided on a location yet, but is looking for one now.

The city currently houses a Tokyo Electron research lab.

Taiwan's Chunghwa to test ADSL, HFC technologies

High-speed Internet access is on its way to Taiwan with the planned trial of asymmetrical digital subscriber line (ADSL) services from the end of this year.

The state-owned phone monopoly Chunghwa Telecom will trial a 1.5Mbps service offering high-speed data access, near video-on-demand (NVOD) and distance learning to 200 households in Central Taipei.

John C.C. Hsueh, vice-president of the Northern Taiwan Business Group, said: "We already have a huge investment in twisted pair, which has a limited bandwidth of about 144Kbps. We would like to maximize our investment in existing plant."

He said the first phase of the trial, which was now underway, involved about 28 households, mostly Chunghwa staff.

The trial is focused on testing the ADSL technology, and is free for customers, who will be able to choose between LAN-based ADSL, with an Ethernet connection for high-speed data, or a T1 connection for NVOD.

Hsueh said the technology had great potential for Taiwan.

The vast majority of households are capable of receiving ADSL-based services, which has a limit of about four kilometers from the nearest exchange.

It also has potential for Chunghwa's future business. Under present Taiwan laws, the cable and telecom businesses are strictly separated, though the Ministry of Transport and Communications has planned to fully liberalize telecommunications by 2001.

Taiwan is world's third-largest hardware producer

Taiwan maintained its position this year as the world's third-largest information technology hardware producer, according to newly released figures.

In its annual industry report card, the semi-official Taiwan Marketing Information Centre (MIC) found Taiwan's domestic IT hardware sector had grown the fastest of any of the major producers.

In a portrait of a buoyant sector of an otherwise sluggish local economy, the MIC reported Taiwan had lifted domestic IT hardware production 20.8 per cent to US$16.41 billion. This compared with U.S. output worth US$71.54 billion (up 9.8 per cent), and Japan's hardware output of US$70.7 billion (11.2 per cent higher).

Taiwan continued to dominate in key hardware sectors, the MIC said, leading the world in monitors, notebooks, motherboards, keyboards, audio and video cards, and desktop and portable scanners, among others.

The survey found Taiwan's IT and related sectors had grown 26.9 per cent over the year to a total of US$27.47 billion and predicted output would increase by 69 per cent over the next four years — to US$46.47 billion.

While the total output was as usual dominated by IT hardware, comprising 88 per cent, computer networking products showed the fastest growth rate, up 50.9 per cent to US$1.47 billion. Taiwan's software sector also posted growth of just under 20 per cent to a total of US$3.4 billion.

In other findings of the survey, the MIC reported industry chief executives were concerned with business models for future growth, the impact of changes in purchasing practices of large international companies, and requirements and structure of the peripherals sector.

Taiwan's developers get Big Blue support

IBM has joined with the Taiwan government in a program to support small-scale software developers.

Under the program, software developers using IBM platforms will be able to promote themselves through IBM's worldwide sales channels and receive training, personnel and software support.

IBM signed the agreement today with the Ministry of Economic Affairs and Taiwan's leading military research body, the Chungshan Institute of Science and Technology.

Cynthia Erdman, IBM regional manager for solution provider marketing, said it was the first time IBM had taken part in a development program aimed specifically at small and medium-sized companies.

She said the agreement meant "more solutions that contain IBM technologies, more solutions for our customers, more solutions for the market-place."

"We want to see an increase in computerization in the marketplace," she said.

Ko Shi-bin, from the SME center for Information System Training said: "The main purpose of this cooperative plan is to raise the technology capability and computerization of software [developers], as well as to broaden access of products to overseas markets."

He said the Chungshan Institute would be able to provide skilled software personnel, while IBM's professional technology and global sales channels would "offer Taiwan software companies new opportunities to contest international markets."

While Taiwan is the world's third largest information technology hardware supplier, the government has targeted the software sector as a priority for development, said top economic official, economic affairs minister Wang Chih-kang.

Singapore's Information Technology Institute develops multilingual Internet search engine

The Internet has spawned a multilingual search engine — iAgent, ideal for the Asian region, launched by Singapore's Information Technology Institute, the applied R&D arm of the National Computer Board. Some multilingual services and iAgent are designed to serve as effective information management tools.

According to ITI's director, "iAgent fills a niche in this region where native languages often take a backseat due to technology limitations." He expected the multilingual search engine to provide the missing link to advanced information management for organizations in the region.

iAgent is available in three versions: iAgent Junior, iAgent Lite and iAgent Pro. iAgent Junior, a free version of the Internet search engine, allows limited numbers of documents on a local host server to be indexed and searched. However, according to ITI, it retains all other features of iAgent. These include the ability to index, retrieve and summarize documents in English, Chinese and Malay as well as to create a profile of users reading preferences which alerts them of potentially relevant documents.

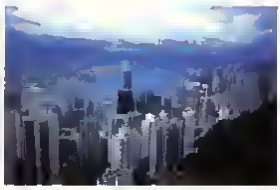
iAgent Lite incorporates the SmartSpider technology of its full version, iAgent Pro, and allows users to move beyond their local Web server and retrieve documents from selected remote hosts. iAgent Pro allows unlimited documents, unlimited database and unlimited users per site.

iAgent has special relevance to hospitals as it can be used to deliver comprehensive medical information to doctors all over the world at the click of a button, says ITI.

Licensing packages and a copy of iAgent Junior, for non-commercial use with licensing fee waived, are available at http://iagent.iti.gov.sg.

Computers put more police on the streets

Over the next few months, the Royal Hong Kong Police Force will computerize its databases and form a Police Data Network linking all offices in the territory.



Hewlett-Packard will provide 200 Unix and Windows NT servers, about 3,000 personal computers, related software, and consulting for this project.

"The key goals of the force's IT strategy are to release police officers from repetitive administrative tasks to take up front-line operational roles," said Ben Munford, assistant commissioner of police (Information Systems).

The database, known as the Formation Information Communal System, will contain public reports, complaints, and police reports. Although the interface is bilingual, the database will be primarily in English to facilitate searches. CW

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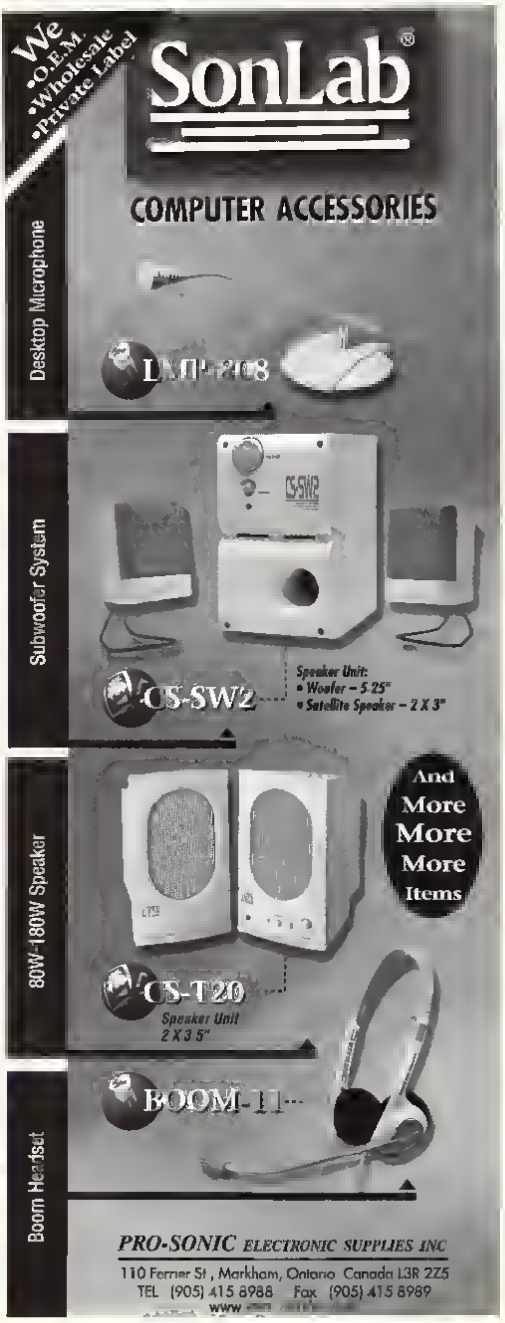

Out with the old, in with the ...improved

1996's technologies, trends will mature and evolve in '97

by Gary Davies

The continued growth of the Internet, the onslaught of network computers (NCs) and increased processing power were the three areas most talked about when *Canadian Computer Wholesaler* asked vendors and analysts alike what would be hot in 1997.

Yet, there were various levels of agreement when it came time to ask how much influence each area would have on the industry as a whole.

Michael O'Neil, senior vice-president at International Data Corp. (Canada) Ltd., said when it comes to the Internet we haven't seen anything yet. "The hype surrounding the Internet is only beginning to take shape." Moreover, he added, "I would go so far as to say its usefulness is finally starting to rise. We are starting to see it move away from simply advertising and more towards its use as a transaction tool."

While Ian Hayes of A.C. Nielsen says he's not in the business of forecasting trends in the IT industry, he says there are some obvious movements afoot this year. The infiltration of NCs and the convergence of television and the Internet, are two major growth areas, Hayes says.

But O'Neil says the models of machine presently being pursued by such companies as Sun Microsystems and IBM will see "limited success in '97. I don't think you will see broad consumer acceptance, at least not right now." The early usage of NCs will likely be found in the corporate market for front-line applications, O'Neil says, noting banks and government will probably be the first to jump on board.

Users are demanding tools that:

- Are targeted to their needs,
- Are easy to use,
- Provide the ability to leverage the power of the Internet

— Andrew Dixon

Ralph Hyatt is manager of product marketing for Compaq Canada Inc. and something of a dissenter. He said he still sees a lot more hype around the technology than substance. "Things like electronic commerce are going to come," Hyatt says. "But the Internet will continue to occupy a small percentage of what we're doing (at Compaq), maybe two to three per cent."

Hyatt says the latest Canadian figures he's seen indicate only eight per cent of the population is on the Internet, "it's still a fairly niche market. Even if it doubles in size this year, it's still quite small." In fact the only area Hyatt can see Internet users capitalizing on at present is in the realm of service and support. "Industries in general are starting to use their Internet sites as a great way to support their customers."

Hyatt says, in his opinion, the biggest debate in 1997 will focus around NCs. "I think there might be some limited applications for them, but most of our clients still need that desktop power. Again, I think it will be a niche market, for the time being. If anything, there might be some need for a networked PC as a second device in the home. There are some applications that could operate off a striped down version."

But all this debate over technology futures has led Roy Rivers to the conclusion that the average PC buyer is beginning to mature and beginning to focus on how new technologies can make their lives easier. As the marketing manager for IBM Canada Ltd.'s Aptiva brand line, it is Rivers' job to find out exactly what the consumer is looking for when it comes to a home PC. He says with individuals' lives getting busier and busier, "people are looking for convenience."

It was on that basis that IBM developed its Home Director model of Aptiva. Through the use of strategically placed modules, known as X-10 technology, the Home Director model automates the home without rewiring. For example, it can turn your lights on and off, start your coffee maker in the morning, or turn on the stereo system. "It's a much more practical model for families — people who are looking to integrate their PC into the main areas of the home," said Rivers.

To address that home integration, a lot companies of late, IBM included, have been changing the look of their PCs. Sleeker models — black or charcoal grey, are being produced as more and more individuals are seeing their PC as a mere extension of their entertainment unit, Rivers says. "Besides looking for lots of performance, people are also starting to think about what (the PC) will look like in their home."

Microsoft is another company hoping to capitalize on the increased awareness and education of the PC user. If there is one product that might garner the lion's share of hype this year it could be Microsoft's Office 97. Scheduled for release in Canada Jan. 16, Microsoft has made the integration of Internet technology an integral part of this suite. Along with its component applications (Word, Excel, PowerPoint and Access), Office 97 also includes Microsoft Outlook, a desktop information manager that integrates E-mail, scheduling, contacts, tasks and access to documents. As well, the Web technology in Office 97 allows users to save documents in HTML and publish them directly to intranet servers.

Andrew Dixon, product manager at Microsoft Canada Inc., said Office 97 was produced with the small business or home-business owner in mind. In fact, the company produced a Small Business Edition just to meet those individuals' needs. "We've spent the last year researching the needs of small businesses and talking to small-business owners," Dixon said.

"We heard they want three things: tools targeted to their needs, that are easy to learn and support and that give them the ability to leverage the power of the Internet."

Indeed, expect to see those user demands echo throughout the IT industry as we head into 1997.

Gary Davies is a Calgary-based journalist who specializes in high technology and business reporting.

This isn't your 1996 PC

Big changes are coming in computer design — get ready

by Alan Zisman

Hold on to your hats. Indications are there will be significant hardware changes during 1997. In fact, the computers for sale by the end of the year may be as dramatically different from 1996's models as 1984's AT was from the previous generation.

Indeed, for IBM-styled PCs — the last time there was a really big bunch of design changes was back in 1984, when Big Blue first introduced the AT.

That first 286 gave us: the 16-bit ISA bus, still used on most PCs; CMOS setup programs that allowed users to set system configurations with software; high density floppy disks; built-in hard drives; extended memory beyond the XT's 1MB limit; 16 IRQ channels; high resolution colour graphics; and a keyboard that still works with contemporary models.

Today's models have faster, more powerful processors and hard drives, fancier video displays, and PCI I/O buses in addition to the vintage ISA slots. But in many ways, they are simply incremental upgrades of that original IBM-AT. In fact, it's only been in the last couple of years that software has finally gone beyond 16-bit compatibility with that first AT, finally supporting the full 32-bits that have been provided by hardware starting with the 1987 386 models.

The Impending Changes

In the past year, Intel has rethought the motherboard — its ATX design sports an open standard that turns the board sideways. It is incompatible with cases and power supplies that have been in use since the early 1980s, but provides more efficient cooling and easier access to the CPU and RAM.

But that's just the start of the innovations that we can expect over this year.

Intel's MMX processor upgrades are replacements for the current Pentium and Pentium-Pro models, with additional instructions optimized for multimedia. These are the first major additions to the Intel 80x86 processor instruction set since the 32-bit 386 mid-way through the 1980s. For software designed to take advantage of it, MMX promises much improved multimedia, 3-D and graphics performance. Competitors Cyrix and AMD are also promising their respective equivalents.

The PCI internal bus has become standard in the past two years, replacing the 486's VLB local bus, and even appearing on new PowerMacs. It's got a lot of life in it, expect it to be around for several more years. Expect to see graphics adapters moving to the Accelerated Graphics Port (AGP) standard, however, for a more direct connection between the processor and the video card.

And look for systems supporting two different external bus designs.

The first, Universal Serial Port (USP) is already starting to appear on new motherboards and systems, even though there aren't yet many peripherals to attach to it. It promises a simple, single, higher-speed way to connect all sorts of devices ranging from keyboard and mice to scanners, printers and modems to digital speakers.

Further down the pipeline, but promising even higher speed, is FireWire, also known as IEEE 1394 (a name even its mother doesn't remember). A 100Mbps connection (compared with USP's 12Mbps and a standard serial port's 115Kbps), FireWire promises easy connection to more demanding devices, from the next generation of superfast hard drives and video input devices.

With RAM prices low, look for systems that support larger than ever amounts of memory (and look for software that will be demanding more and more RAM). New models of RAM will become increasingly important. Just as 72-pin, 32-bit SIMMs replaced earlier 30-pin eight-bit SIMMs a few years ago, and EDO RAM replaced standard DRAM, new generation designs will become increasingly prominent this year. Watch out for acronyms like SDRAM (for Synchronous DRAM) and RDRAM (for Rambus DRAM), in physical memory modules called DIMMs (for Dual in-line memory modules) replacing today's SIMMs.

As well, the Unified Memory Architecture (UMA) will simplify system design, by allowing computer subsystems like the video card to draw on the system's single memory bank.

Like RAM, hard drive prices are at an all-time low. Look for this to continue, with enhancements to both the EIDE standard and SCSI high-end standard supporting bigger and cheaper drives-until both are replaced, at least at the high end, by FireWire-compatible drives. A more dramatic change will begin in 1997, however, with the appearance of the first DVD devices.

These Digital Video/Versatile Drives will be appearing in both computer and home entertainment versions similar to the current audio CD/CD-ROM models. But initially supporting 4.7GB of information and high speeds, they promise to revolutionize mass storage. And writable models should not be too far behind, along with improvements promising even higher storage capacities.

And of course — add in other improvements, like 3D-accelerated video and wide-pipe Internet connections.

The result? By the end of the year, we'll be seeing a PC that will be significantly different than last year's model, and will likewise herald whole new applications for its users. CW

Alan Zisman is a computer journalist and teacher living in Vancouver.

Markets continue to look promising for high-tech

However, brands have the most to gain as buyers increasingly spend their bucks on the big names in the industry.

by Thomas Klein

Some of the sales numbers are in for the holiday season, and we have had the most positive start in consumer spending in more than five years

In the U.S., the all-important Thanksgiving Day weekend sales figures were better than the most optimistic projections. The best news is that "discounting" is not the reason that sales are increasing, in fact, the average ticket size is bigger than expected. The trend so far has been for high-end products that will deliver long term value. Cheap price isn't the only motivating factor as it has been so far throughout the '90s. Consumers are demanding quality and value, especially when it comes to computer related products.

Normally, December and January are typically slow months for corporate orders, but it appears that companies are taking this time to reevaluate their technology needs and formulate more complete solutions. In the past, the recession put a damper on large orders. But 1997 looks like the turnaround year for the technology sector with a banner year for new orders as companies strive to maintain their competitive advantage. A low interest rate environment not only stimulates consumer demand but it frees up capital for companies as well. Money saved on servicing debt can be applied elsewhere. When corporations are asked which budgets will be increased for new year the overwhelming response has been technology upgrades.

The fundamentals are in place for the technology industry to have a great year in 1997, but — and there is always a but — I do not think that it will be a broad-based revival. Rather, a few companies will do a lot better than the average and some of the smaller companies will have to merge or be eventually squeezed out of business. With the cash crunch of the early '90s, price was the primary consideration.

Unfortunately when choices are made based solely or largely on price, shortcomings do not take long to be realized. Technology buyers for corporations suffered for making these decisions. The trend with both consumers and corporate buyers today is to go with large brand name companies that will stand behind their products.

The shift to large companies with brand name recognition has already been seen in the stock market. The ScotiaMcleod high-tech index (it tracks listed Canadian technology companies) is up 2.9 per cent from July. However, when the index is broken down more interesting information becomes evident. The large capitalized companies are up 6.2 per cent compared with smaller capitalized companies up only 1.5 per cent. Many of the smaller technology companies, have disappointed analysts with lower-than expected growth and poor earnings. In the U.S., this phenomena is even more evident. Dominant players are increasing their market-share and increasing profits while smaller companies struggle to get noticed.

Brand name companies are going to do the lion's share of the business in 1997. In the U.S., the financial might of companies like IBM, Intel and Microsoft affords a competitive advantage which leaves most other companies fighting it out for the crumbs. The reason IBM was able to bounce back was not due entirely to restructuring or improvement in their product lines but in the fact that their huge client list enables them to have first crack at any new business.

I think some the other big names in the industry that suffered a little in 1996 will turnaround next year, in specific — Digital Equipment, Hewlett Packard and Motorola. The exception to the rule last year was Dell Computers. It was a young company that initiated lighting fast inventory turnaround and a direct

marketing strategy. It paid huge dividends for the company and made many companies take notice and find ways to better manage their product cycle. I think that Dell caught a few companies off guard last year but the gloves are off now and Dell will have a hard time repeating last year's growth rate.

What products are Wall Street excited about for the coming year?

In the communications category, Internet and intranet infrastructure will be the largest growth areas. The runner-up will be the next generation of wireless technology (PCS) although it will start off slowly in 1997 and build up towards the end of the year. In the hardware department look for notebook computers sales to jump as almost every salesperson and business person knows they're toast if they do not have one by 1997.

I think that PC sales will be strong — contrary to the great debate about the advent of network computers. NCs displacing the PC is a none-issue for the time being, just look at the disappointing performance of the stock prices of companies developing NCs. The NC will find a market but I don't think that the impact will occur in 1997.

The hardest market to predict is software. Of course Microsoft will continue to hum along but there should be a few interesting surprises.

In the consumer market-place — look for digital camera sales to increase as prices are coming down and features are improving.

Resellers should be excited about the prospects for the coming year. Consumers and companies should have more money to spend. It will be refreshing to provide the best solutions in the context of more flexible budgets.

I think that attitudes of business and the consumer are less negative and more constructive, which should result in more business being done for everyone. Even the Canadian government seems to be doing a better job Internationally. Canada is being touted as the country with the best future in the coming year. All these elements are positive for the stock market and a positive market creates financing opportunities for the development of more business and new products. If all these prospects come together we will all have a truly Happy New Year. CCW

Thomas Klein is an investment executive with ScotiaMcleod. He can be reached at tomk@webhaven.com.

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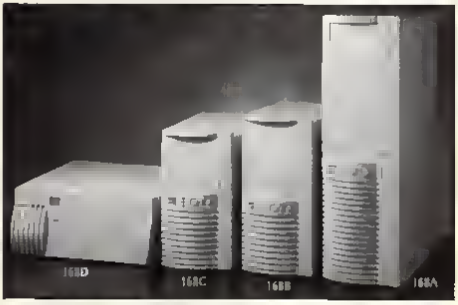

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Java, The Network Computer and The Anti-Bill League

by Jeff Evans

Bill Gates

October and November saw a flurry of Network Computer (NC) and Java software announcements by major vendors such as IBM, Sun, Oracle and Corel. A broad coalition of companies is moving as quickly as it can to create an alternative to the Windows/Intel platform that has captured most of the desktop PC market in the last decade. To hear NC boosters talk, the PC as we have known it is a doomed dinosaur an overpriced, overly complicated luxury that serious businesses can't afford as a mainstream technology.

The subtext of this vociferous disrespect for the PC, however, is far from charitable. Quite consciously, many of the large vendors in the computer industry are trying to use the network computing model to cut the surging Microsoft Goliath down to size.

Scott McNealy, the founder and CEO of Sun Microsystems, for example, is famous for referring to Microsoft as nothing more than "a post office box for royalty checks." McNealy has subsidized the development of Java, and enthusiastically promoted it as the new open standard for business software development. In a way, the NC coalition is paying cheeky tribute to the time honored Microsoft tradition of the "pre-emptive press release," trying to influence industry opinion with some clever public relations and marketing hype well in advance of having a really functional solution.

The network computer crowd has certainly managed to get Bill Gates' attention however, even if the business community is still undecided about the merits of the NC/Java versus Wintel debate. Ever since Gates became conscious of the potential of the Internet and Java to undermine his hugely successful PC software sales model, Gates has worked nonstop to turn Microsoft around and meet the threat from the 'Net.

The Real Big Reality Check

A basic fact to keep in mind is that in today's real world, the network computer and Java are still a twinkle in developers' eyes, while the Windows PC is heading for its second hundred million users.

Gates chose his keynote speech at this fall's Comdex in Las Vegas to forcefully present the Microsoft argument against the NC crowd. Without giving his competitors free publicity by referring to them directly by name, Gates' whole speech was aimed at reinforcing the notion that the glorious future of computing lies with the PC and Windows, rather than the NC. "People have looked at the PC and said that something is missing, and that we should throw it out and start with something new," he stated. However, "the PC platform has proven superior. The software developers have played a big part in this. You can use any programming language and the economies of scale are such that advanced technologies can move into the market with little markup."

The IBM Network Station

Gates made the point that while there are indeed applications for which diskless workstations or "thin clients" like the NC are suited, the supposed savings of a diskless computer are greatly offset by the costs of faster networks and more overworked servers. In order to be fully useful, Gates asserted, new network computing devices will need a high degree of compatibility with Windows applications. Gates characterized much of the impetus behind the NC movement as a scheme by makers of network servers and networking and database software to sell more of their products.

Far from the Windows PC being on the way out, Gates asserted, 1996 was the year of its greatest technological advance. Improvements in hard drive and processor technology, the drop in RAM prices, the instant doubling of modem download speeds with US Robotics' X2 technology — all of these developments are evidence of the unstoppable momentum of the PC, he said. Gates then took the high road, spinning a vision of the future of Windows. He paid tribute to the visionaries of the past decade including Apple, who laid the groundwork for the future of pervasive networking and intelligent software.

The greatest irony in the competition between Microsoft and the network computing alliance is that the two camps are so inextricably connected. The NC is shaped by a perception of weaknesses in the Windows/Intel platform, and the desire to prevent Gates from becoming even more dominant.

Microsoft's every action now is driven by the need to counter the arguments of the NC crowd nipping at Gates' heels.

Is Web technology threatening Microsoft's kingdom?

Well, then make Windows Web centric and Web-browser-like.

Is the PC is too expensive and complicated to administer?

Well, then get together with Intel and develop a "zero maintenance" PC. In their epic struggle, Microsoft and the NC crowd are forcing each other to develop better, more affordable product that their customers actually need.

This is called competition — and according to most industry watchers — that's a good thing. cw

Jeff Evans is Toronto Editor for Canadian Computer Wholesaler. He can be reached at jeff@tcpon.ca

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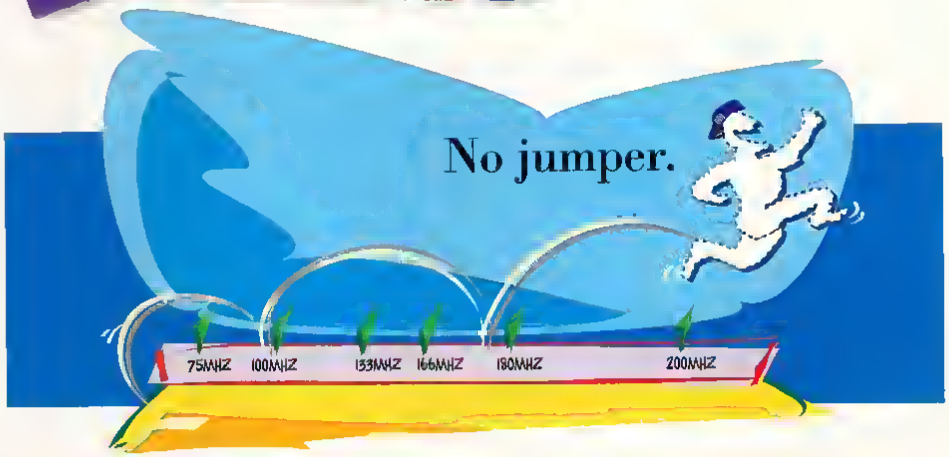

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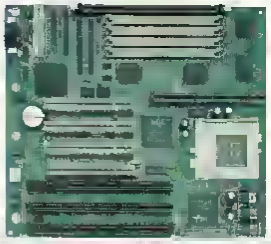

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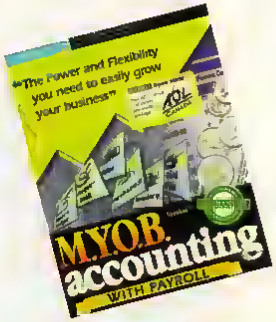
Home-based business: a growing market for accounting software



by Paul Weinberg

When it comes to Windows-based entry-level accounting packages in Canada, industry watchers say it's a three-horse race for the lead — and the three big contenders are Simply Accounting (from Accpac International, a division of Computer Associates), MYOB (BestWare) and QuickBooks (Intuit Canada).

While the manual approach, involving pen and paper was common until the late 1980s, it has since declined sharply in popularity. The inexpensive $200-and-under entry-level products — subject to much price-cutting in the retail outlets — makes them attractive for many small- and home-based business, which are the major purchasers of accounting software products.

Sales for accounting software through the reseller channel have shipped by seven per cent in the first eight months of 1996, compared to the same time period in the previous year, according to the Markham, Ont.-based A.C. Nielsen Co. of Canada. But simultaneously, 52 per cent of purchasers of these products are home-based businesses versus 35 per cent for small business, compared to 46 per cent for home and 41 for small business in 1995.

The Home Business Buyer

With the downsizing of government and large corporations, many former middle managers and professionals are setting up their own home-based companies and seeking accounting packages "to maintain control on their finances," says John Schoutsen, vice-president for micro financial sales and marketing for Accpac International. He adds there is an increasing demand for user-friendly applications.

Ironically, Simply Accounting, the widely acknowledged market leader in entry-level accounting, has lost market share because of its complexity and insufficient features, according to its competitors and some consultants.

Nobody has exact numbers detailing Simply Accounting's current Canadian strength, since the major computer industry research organizations have not done any recent studies on buying patterns for accounting software in Canada. But the Bolton, Ont.-based chartered accountant Tyne Bonebakker says he has noticed less interest among clients in Simply Accounting because of what he pointed out as technical deficiencies in financial reporting features and an "Orwellian" approach to the audit trail.

Bonebakker said he much prefers MYOB because of its "beautiful user interface" and 100-year database. "Most accounting packages are restricted to the current year and last year."

Bonebakker blames much of difficulties in many accounting packages on accountants, who still hold strongly to the principle of a permanent record of all financial matters including invoices, purchases, expenses, taxes, loans and payroll, warts and all.

From the perspective of his colleagues, when subsequent corrections are made to the accounting both the original error and the change should both be available to the accountant or the auditor for perusal in the interest of accuracy.

But Bonebakker finds that his small business clients dislike this rigidity. To make the point, he quoted an anonymous user of a rigid accounting system who mutters about how it is possible to make changes in every computer application except accounting.

At the other end of this debate, Schoutsen at Computer Associates defends having "an accurate audit trail," and counters that people who want total flexibility in an accounting program "might as well as use an word processing program instead."

Echoing Bonebakker's assertions are Simply Accounting's competitors themselves. "Traditionally, the accountants have concentrated on control, not ease of use," says Lee Horigan, product manager for Intuit Canada Ltd.

Greg Michetti, an Edmonton VAR and president of Michetti & Associates, said some small businesses have been advised to buy 'overkill" Accpac packages when all they needed was an entry-level product.

And Toronto chartered accountant Richard Morochove, president of Morochove & Associates Inc., notes that even MYOB and QuickBooks "have supplementary features where you can retain an audit trail."

Morochove said he has been privy to the fifth and latest version of Simply Accounting, to be released in March and states it is a vast improvement technically.

Nevertheless, he does not let Simply Accounting entirely off the hook. Computer Associates is finally getting its act together after a period of serious neglect, which led to diminished sales, he states emphatically. Computer Associates' tardiness, he said, has made the entry-level accounting market a three-way contest, whereas more than three years ago Simply Accounting was almost the only game in town.

52 per cent of accounting software buyers through the retail channel are running home businesses, according to A.C. Neilsen.

In addition, comparing the merits of various accounting packages is purely subjective, warns Morochove. Simply Accounting, for instance, provides much flexibility in terms of customizing the invoicing option, while QuickBooks contains only three choices. "It is a personal preference (as to) which is better," he says.

Previously, among the top three — only MYOB and Simply Accounting were avail-

able in full Canadian versions, suitable for this country's system of payroll and taxation. Now, QuickBooks, version 4.5 for Windows, has arrived with full Canadian features as well. It includes automated GST/PST tracking and Canadian payrolls options, as well as professional estimating, time tracking and automated job costing tools.

But Canadian payroll is not an issue, says Morochove, for the growing number of small business which have no employees and rely entirely on contract workers.

Toronto's BestWare's recently announced MYOB Accounting Version 7 for Windows and MacOS includes an Easy Setup Wizard. It starts by helping users select one of 100 start templates, or helps them create their own. It then walks users through a setup of opening balances and linked accounts to help users specify system preferences, so they can tailor the program to fit their work habits.

The company says new tools in the product include an expanded on-line help system, cue cards for step-by-step instructions to common tasks, and a multimedia learning centre. The software automatically handles calculation of GST and PST on sales and purchases, plus full manufacturing build and backordering capabilities, and has the ability to set credit terms per customer or per invoice.

On the bilingual front is Dynacom Accounting Gold for DOS and Windows, from Montreal's Dynacom Technologies Inc. Modules include: General Ledger, Accounts Receivable, Accounts Payable, Invoicing, Inventory, Job Costing, Payroll, Budgets and Forecasting, Custom Form Design and Report Generator. According to the company, the product is easy to use and install, fully bilingual (French and English), allows for an unlimited number of transactions, is networkable, and is supported by on-line help.

New on the block is Integrated Office Accounting from Markham, Ont.-based MTW Solutions Online Inc. (a sister company to DacEasy Canada). The Windows 95/Windows NT package is aimed at small-mid-sized businesses (typically under 50 employees), said national sales manager Tony Bone. Because the application was written in Microsoft Access, Bone said, "It integrates seamlessly to the Microsoft Office suite and it's easily customized for different clients."

Integrated Office Accounting will be launched this month, priced at $1,495 for a single-user version. The company hopes to sell the product through VARs, accountants, consultants and vertical application developers, said Bone.

And, recently launched is DacEasy Accounting 7, by Dallas-based DacEasy Inc. New features in that small business package are:

- the ability to include posted and unposted data when financial reports are printed,
- a running balance on General Ledger activity reports,
- date-sensitive beginning balance on General Ledger activity reports,
- aging of invoices by transaction dates,
- open invoice aging,
- flat amount price breaks,
- salesperson-tracking for back orders,
- new indexing for faster printing and posting of transactions, and,
- a customizable Bill of Materials.

Accountants' Role

Accountants may be a notoriously conservative bunch, but many have taken to including information technology as part of their consulting services. It's not uncommon for a small business to have items like invoices, sales, expenses, purchases, payroll and taxes recorded electronically and then provided on a disk to an accountant at tax return time. That professional might also recommend a software package, although an increasing number of "sophisticated" clients prefer to shop around before making a decision on a purchase, according to Tom Dagenais, a partner in Deloitte & Touche's consulting services. Except for configuration which can be complex, the leading Windows-based entry products are easy to use and require little training, he says.

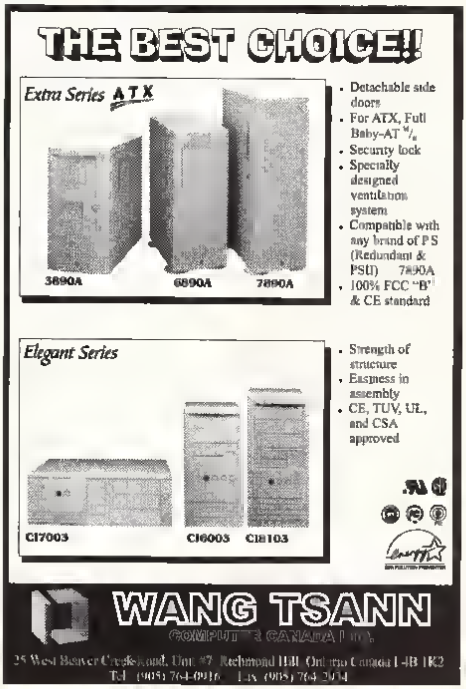
While the accounting software industry was a late adopter of Windows, now "Windows is the single biggest trend," adds Dagenais, who observes that accounting software vendors which still only have DOS products will soon disappear.

The Future

Many of the interesting developments are occurring in the high-end accounting software products.

But as costs drop, those features will eventually percolate down to the entry-level. As electronic commerce and PC banking grows with the Internet/intranet, it will eventually be possible, says Morochove, to conduct one's transactions on-line and have them recorded automatically into the company's accounting system without any data entry required.

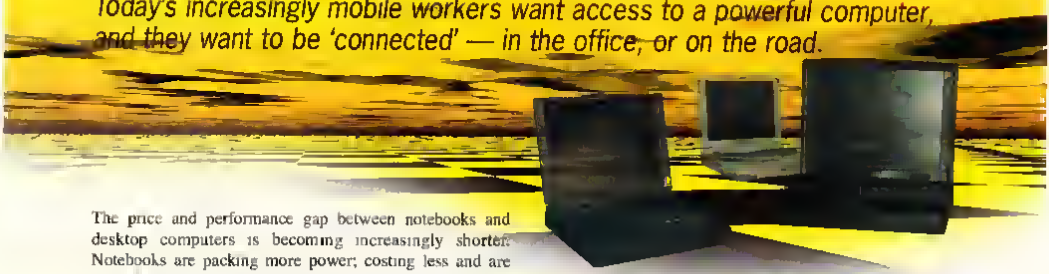
Paul Weinberg is a journalist specializing in high-technology reporting and business based in Toronto.



Desktop Replacement Notebooks

by Jazz Bhoot, Tim Bingham Wallis and Steve Halinda

Today's increasingly mobile workers want access to a powerful computer, and they want to be 'connected' — in the office, or on the road.



The price and performance gap between notebooks and desktop computers is becoming increasingly shorter. Notebooks are packing more power; costing less and are appealing to more people. Last year's touted Pentium desktop system is today's standard notebook offering.

Portability is the present, and the future. As a result, resellers should prepare themselves for the upcoming increase in demand for mobile computing solutions being driven by the trend toward 'getting connected.'

More and more today, notebooks are being manufactured and bundled feature-rich. They are getting cheaper — gone is the time when notebooks used to cost double the price of a comparable desktop computer. They are weighing less — typically around five or six pounds. They are boasting larger and more vibrant displays, fast CD-ROM drives, networking friendliness, long-life lithium ion batteries, larger and removable hard drives, PC cards that do it all, wireless mice, communications ports, printing, and the list continues. Let's face it: notebooks are getting powerful.

The wide array of notebook configurations available is making the investment in a notebook an attractive option for professionals in a broad range of both vertical and niche markets. The notebooks we tested ranged from the multimedia-loaded IBM Thinkpad 760ED, ideal for the mobile sales presentation, to the need-for-speed machine, the NEC Versa 6030H, to the low budget pro, the Dell LM133ST. They go from the ultra rugged, magnesium alloy-shelled Panasonic CF-25 (for the market requiring a notebook that can really take a beating, is suitable for combat and capable of a withstanding some physical abuse) — to the all-in-one solution, the Eurocom 6200T. We saw the ultra-sleek and lightweight, 1.3 inch thin performance box — the IBM Thinkpad 560 ideal for the mobile executive, and the everything-without-the-price Impulse DuoNote.

Why are we seeing such a rapid growth in notebook computing muscle?

Simple: the demand for high-powered mobile computing in a small package has increased — driven by a shift towards mobility, networkability, and Internet communications. The SOHO market is growing, and fast. Working from home with the ability to take work back-and-forth, to-and-from the client requires electronic agility-notebooks.

Companies are looking to take advantage of readily available Internet access in the effort to sustain competitiveness and productivity, and are equipping their sales and marketing teams with electronic mobile power.

In this lab test, we asked for notebook machines that can be considered replacements for the desktop and we received many that fit the bill in terms of specifications. The mainstay of our survey this month are powerful 133MHz machines configured with 2GB hard drives, 8X CD-ROMs and TFT screens. However, our benchmarks suggest the latest generation of travel companions still miss the mark in the area of performance. Remember, no matter how much you spend, a desktop in any given class will always outpace a notebook by a large factor.

On BAPCo Sysmark32, a score (Sysmark) of 100 is equal in performance to a base-configured Pentium 100MHz desktop machine. Most of the notebooks (touting higher CPU speeds) failed to reach this level.

In the lab we used BAPCo Sysmark/32 running under Windows 95 to benchmark the notebooks. This is a grueling test and invariably, some computers fail to make it clean through the benchmark. Notebooks in particular have a hard time with the benchmark as they use more proprietary schemes than desktops. This isn't to say that a computer that can't clear the benchmark is 'no good,' but it is indicative of possible incompatibilities between the hardware and certain software. Making sense of the benchmark results is quite easy. The higher the Sysmark32 score, the faster the system. The reference system, as mentioned earlier, is a Pentium 100MHz system, which is equal to a score of 100. A system that scores 200 is twice as fast.

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Impulse Computer DuoNote

Jan '97

Suggested Retail Price
$5,995

Street Price:
$5,495

Marketing Support For Resellers
- Co-op advertising
- Marketing funds
- Reseller referrals
- Listing on Web site
- National advertising

Maintenance Relationship With Reseller.
- Three-year warranty includes parts and labor
- 1-800 technical support.
- E-mail
- Web site includes technical support and drivers

Volume Discounts:
Handled by distributor

Demo Unit Availability
There's a five per cent discount off the normal dealer price with one model per location

What Is Impulse's View Of The Desktop Replacement Market?
Impulse says "We foresee significant growth based on lower total costs for corporate buyer/user.

"Our multimedia systems are positioned both as a notebook per se with our DuoNote, and as a desktop replacement with our upcoming Power lite 6000'

What Are The System's Strengths?
The company points to
- Two-in-one product design
- Integrated networking
- Internal fax modem
- Large hard drive, P133, and 16MB of RAM standard

Editors' Notes
This is a very complete all-in-one unit, featuring a built-in 28 8Kbps modem and built-in 10Base-T Ethernet adapter The unit itself is light-weight, and features an additional docking station with port replicator The 2 1GB hard drive will be more than adequate for storage requirements Overall, this notebook is very well designed, both from an engineering standpoint and in terms of an aesthetically pleasing layout.

IBM ThinkPad 760ED

Suggested Retail Price:
$8,999

Marketing Support:
- Co-op advertising
- Trade show support.
- Marketing funds
- Reseller referrals
- 1-800-tie-in
- Listing on Web site.
- POP displays
- National advertising.

Maintenance/Technical Reletionship.
- Three-year warranty.
- Warranty includes parts and labor
- Reseller can offer service
- Training seminars
- 1-800 technical support
- Fax-back
- Dedicated technical BBS
- Dealer specific space on Web site
- Web site includes tech info
- Web site includes drivers
- Easy ServCourier Warranty — IBM covers the cost of a courier to pick up and return machine to the customer site

Demo Unit Availability.
One week availability

What Is The System's Role In The Market?
IBM says "The ThinkPad 760 delivers top-notch advanced hardware solutions to meet multifaceted needs. Multimedia features include a high-speed 6X CD-ROM, Total Image Video with MPEG 2 support for smooth full motion, and full screen playback of MPEG 1 and MPEG 2 files The 64-bit graphic engine gives the ultimate in video graphics performance You can also capture still images from VCRs and video cameras The high-speed Pentium processor, PCI architecture and PC-card Bus technology easily support the performance requirements of multimedia applications. Also included are Theatre Sound for business audio Sound Blaster Pro MIDI and WAVE support, and telephony functions like full duplex phone, digital answering machine and remote message retrieval."

What Are The Notebook's Strengths?
According to the company
- An ergonomic design
- 104MB EDO RAM
- A 2 1GB hard drive
- A 6X CD ROM drive
- A 12-inch XGA TFT that provides ultra-fine 1024 by 768 resolution
- Automatic tilting keyboard with built-in palm rest.

Editors' Notes:
This unit can be considered the "Cadillac" of IBM's notebook line The 760ED has features not easily found on many notebooks — for example, the active-matrix TFT screen is capable of internal resolutions of 1024x768 for exceptionally sharp images The unit also has a built-in 28 8Kbps DSVD modem and built-in 6X CD-ROM drive The total amount of RAM in the machine is configurable, up to a maximum of 104MB In terms of raw performance, it ranked second fastest in our benchmark test suite It's a very solid, high-quality product like you'd expect from IBM

IBM ThinkPad 560

Suggested Retail Price:
$6,399

Marketing Support:
- Co-op advertising
- Trade show support
- Marketing funds
- Reseller referrals
- 1-800 tie-in
- Listing on Web site

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Maintenance/Technical Relationship:
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• Reseller can offer service
• Training seminars
• 1-800 technical support.
• Fax-back.
• Dedicated technical BBS
• Dealer-specific space on the Web site.
• The Web site includes technical information and drivers
• Easy ServCourier Warranty — IBM covers the cost of a courier to pick up and returning the machine to the customer's site.

What Is IBM's View Of The Desktop Replacement Market?
IBM says: "As mobile computers are designed more and more with ergonomics in mind, individuals can truly use them as desktop replacements without the discomforts and inconveniences of the past. The ThinkPad 560 offers full size keyboard and large easy-on-the-eyes SVGA display. The enhanced video chip speeds up video playback of AVI and MPEG files required for playback of MPEG files and Sound Blaster Pro support is also included making the ThinkPad 560 an ultra portable multimedia alternative."

What Are The System's Strengths?
The company says:
• A lightweight thin design (4.1 pounds, in a 1.2-inch thin package).
• A full-sized keyboard with palm rest

Editors' Notes:
The ThinkPad 560 gives new meaning to the term 'slim.' At first look, it's hard to imagine the amount of raw power enclosed in such a small unit, but believe us, it's all there. The unit features a 133MHz Pentium processor with 16MB of RAM and built-in 16-bit sound. If portability is a concern, this is definitely a unit worth considering.

KTX

Suggested Retail Price:
P100 with 10.4 inch TFT: $3,499
P133 with 12.1 inch TFT: $4,899

Street Price:
P100: $3,290
P133: $4,590

Reseller Price
P100: $3,139
P133: $4,139

Merketing Support For Resellers:
• Co-op advertising
• Trade-show support.
• Reseller referrals
• Regional advertising

Meintenence/Technical Reletionship With Resellers
A two-year warranty includes parts and labor, and is supported by 30 branches worldwide.

Volume Discounts:
They're based on total monthly purchases

Demo Unit Availebility/Restrictions:
Demo units are available to authorized dealers for a seven-day period

What Is KTX's View Df This Market?
KTX says: "The narrowing of the price gap between a similarly configured desktop and a notebook has made the latter a viable option for certain business applications. Nevertheless, constrains on upgrades and the size and quality of the display plays an important factor in its share of the market for mainstream business users, especially those with intense graphics requirements."

Whet Are The Notebooks' Strengths?
The company says:
• Screen size ranging from 10.4 to 12.1 inches
• Pentium processors are offered in 100MHz, 120MHz, and 133MHz options.
• There is a built-in touch-pad.

Editors' Notes:
KTX notebooks are distributed worldwide by Edge Wholesale. The two models we received were very similar, with the differences being in processor and RAM configurations. Both models include removable 6X CD-ROM and floppy drives, and can be expanded to 80MB of RAM. The pricing on these notebooks makes them an attractive option.

Compucon

Reseller Authorization:
Geographically based

Suggested Retail Price:
$5,199

Street Price:
$5,199

Merketing Support:
• Cost-sharing dealer exhibition
• Marketing materials.
• End-user lead referrals.

Maintenence Reletionship With Reseller
Product information and updates are provided promptly, says the company.

Demo Unit Availability:
One notebook per reseller at a 10 per cent discount.

What Are The Notebook's Strengths?
Compucon says:
• The ZV (zoom video) port
• Video/S-video output, which is ideal for presentation through a TV
• A large 12.1-inch TFT display

Editors' Notes:
This is a notebook with everything built in. The unit features an internal floppy and a CD-ROM drive, a 133MHz processor and 24MB of RAM. For presentations, the system will allow you to redirect output to a TV through a video port located on the back of the unit.

Toshiba Tecra 500CDT

Suggested Reteil Price:
$6,299

What Is Toshiba's View Of This Market?
Toshiba says: "Toshiba of Canada Information Systems Group believes mobile workers need access to the benefits of multimedia computing any time and any place they choose. Even though they're on the road, those users should not have to accept any compromise in their computing power. Internal CD-ROM, integrated sound and ultra-fast Pentium processing means Toshiba multimedia machines allow power mobile users to easily replace a desk anchored multimedia computer, especially when they combine their portable PC with the connectivity and versatility of a Desk Station V Plus, Toshiba's docking solution."

What Are The System's Strengths?
The company says: The Toshiba Tecra 500

Series is part of Toshiba's Tecra family of Pentium-powered multimedia PCI notebooks, all of which offer a no-compromise desktop replacement solution for power mobile users. The Tecra 500 CDT features 120MHz Pentium power, a 6X CD-ROM, a 12.1-inch 800x600 resolution display, 25KB pipeline burst level 2 cache, an advanced HiQ Video multimedia PCI video controller, a large capacity hard drive, and 32-bit burst Level 2 cache.

Editors' Notes:

Due to popular demand, we were unable to obtain a 133MHz Toshiba so we had to settle for the next best thing, this 120MHz Tecra 500CDT. It features 16MB of RAM, 256KB of Level-2 cache and a built-in 28.8Kbps fax modem. Performance was on par, as can be expected from a 120MHz machine.

Hyperdata Model 759MX

Suggested Retail Price:

$2,889

Street Price:

$2,860

Reseller Price:

$2,600

Marketing Support For Resellers.

- Co-op advertising
- Trade-show support.
- Marketing funds
- Reseller referrals.
- 1-800 tie-in
- POP displays (brochures, posters).
- Marketing funds
- Sales rebates.
- Sales spiffs

Maintenance/Technical Relationship With Resellers

- Three-year warranty, includes parts and labor
- Optional on-site warranty
- Resellers can offer service
- 1-800 tech support
- Fax-back
- Optional cross shipment warranty
- Pending Web site

Volume Discounts:

Volume discounts are available on a case by case basis.

Demo Unit Availability / Restrictions.

- Demo unit discounts are available
- The unit has to be in the store for three months.

What Is Hyperdata's View Of The Market?

Hyperdata says "Due to the powerful capabilities of the multimedia notebook and a smaller price difference between notebooks and desktops, demand for notebooks has outstripped our supply for the last six months. Our notebooks are positioned to replace the desktop and offer a value in terms of price, value, and features."

What Are The Notebook's Strengths?

- Built-in CD-ROM and floppy drive (no need for swapping)
- Built-in stereo sound, speakers and microphone as well as ports for external devices.
- Built in infra-red ports for pointing devices, file transfer and printing.

Editors' Notes

Hyperdata's model 759MX features a 133MHz processor, 16MB of RAM and 256KB of Level-2 cache. The unit has a large 2.1GB hard drive, and 2MB of EDO RAM for the video subsystem. Both the floppy and 6X CD-ROM drives are built-in. Performance wasn't spectacular, but when you consider the price, it's a fair tradeoff.

Panasonic CF-25

Reseller Authorization Requirements:

A credit application is required.

Suggested Retail Price:

CF25CG82AAM: $5,250

CF25EG02AAM: $6,000

Street Price:

CF25CG82AAM: $4,999

CF25EG02AAM: $5,649

Marketing Support For Resellers.

- Co-op advertising
- Marketing funds.
- Reseller referrals.
- 1-800 tie-in
- POP displays
- National advertising

Maintenance/Technical Relationship With Resellers

- Three-year warranty includes parts and labor
- 1-800 technical support.
- Dedicated technical BBS
- Web site includes technical information
- Web site includes drivers

Volume Discounts:

They are seasonally weighted (Q1 — 29 per cent, Q2 — 19 per cent, Q3 — 22 per cent, Q4 — 30 per cent). CUP levels range from one per cent to six per cent, and are paid quarterly, based on volumes ranging from $200,000 to $700,000 annually.

Demo Unit Availability:

Panasonic offers a demo unit discount program.

What Is Panasonic's View Of The Market?

The company says "The market for desktop replacement notebooks is expanding, especially in the corporate segment. Our products are positioned as full presentation machines (MPEG video), and are targeted at the corporate user."

What Are The Notebooks' Strengths?

- MPEG video
- Rewriteable 650MB optical.
- 8X CD-ROM.
- MPEG Handling (Z.V. or MPEG pack)
- Rugged design for added protection
- 12.1-inch XGA TFT display

Editors' Notes

Panasonic's CF-25 is a rugged machine capable of withstanding all kinds of torturous conditions such as rain, dust, spills, and even three-feet drops onto concrete floors. This particular unit has a 133MHz processor with 8MB of RAM as standard. The unit lacks a Level-2 cache, which certainly affects overall performance. The floppy drive is built-in, but the system lacks a CD-ROM drive. If outdoor computing is your thing, then this notebook was designed for you.

Eurocom 6200T

Reseller Authorization Requirements:

Resellers must have been in business for two years, with at least one staff member having good technical and product knowledge. Pricing information and specification handouts need to be available on location.

Marketing Support

- Co-op advertising.
- Trade-show support.
- Web site listing (coming soon)
- Maintenance/technical relationship

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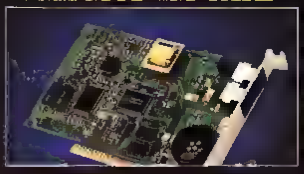

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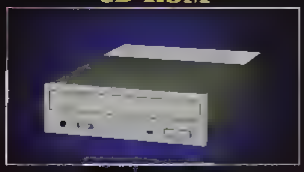

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They are applied on case-by-case basis.

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- A demo unit is available for 10 per cent below dealer cost
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What Is Your View Of The Market?
The company says: "Eurocom believes that notebook computers should follow the same evolution as the desktop systems. Desktop systems that all started out using proprietary components have evolved towards standard interchangeable components and a standard architecture. Notebook computers are now slowly following this evolution, but Eurocom has been there since the beginning.

Desktop replacement notebooks should not force users to compromise on features. A true desktop replacement notebook should offer all the key features of a desktop computer, as well as the flexibility of upgrading major components. With Eurocom, you are getting a computer that may look like a notebook, but is more similar to a desktop in design and concept. Options such as upgradeable CPUs, standard MIDI/Game port, concurrent use of the CD-ROM, floppy drive and hard drive, and a total of three type two PCMCIA slots provide our users with the most full-featured system available today. Eurocom sees the market for notebooks growing in the direction of micro-desktops. Larger LCD panels (13.3-inch LCDs were introduced at Comdex/Fall), more processing power, multiple hard drives and PC Card expansion will all become standard features in tomorrow's desktop replacement notebooks."

What Are The Systems Strengths?
- Upgradable core components (CPU, RAM, HDD)
- Concurrent use of CD-ROM, HDD and FCC (no modules to swap).
- Three type II PCMCIA slots for extra expansion
- Extra features common on desktop systems (MPEG, Midi/Game port, RCA Video — CD output)
- 12.1-inch TFT Active Matrix display (24-bit color).

Editors' Notes:
The Eurocom 6200T is the latest in Eurocom's line of all-in-one notebooks. This particular model comes standard with a built-in floppy and an 8X CD-ROM, as well as support for three PCMCIA slots, rather than the usual two. With this design, it's possible to use two type-II cards and one type-III simultaneously. This is one of few units with no support for IR communication, but otherwise it's a very nice unit.

NEC Versa 6030H

Jan. 97

Reseller Authorization Requirements:
This varies depending on such factors as the reseller's size and location.

Street Price:
$6,589 (subject to change)

Marketing Support:
- MDF Funds
- Trade show support.
- 1-800-tie-in
- POP displays
- National advertising
- Listing on Web site.

Maintenance Relationship With Resellers:
- One-year parts and labor on-site warranty
- NASC-certified resellers can perform services on behalf of NEC
- 1-800 technical support
- E-mail
- Fax-back

Volume Discounts:
Special pricing is set for volume discounts, varying on a case-by-case scenario.

Demo Unit Availability:
One unit per store location is available. The reseller can order it directly from NEC at a demo price.

What Is NEC's View Of The Market?
NEC says: "Notebooks for this market must be built so that they can be used anywhere, anyplace for anything so that power-users have a system that they can rely on. NEC wants to be the premium multimedia systems provider. We want to offer more than just the basics; we offer premium sound, premium audio, premium power."

What Are The Notebook's Strengths?
The company says:
- NEC's notebook computers are designed to provide the highest level of performance available, extensive multimedia capabilities and powerful, simple remote connectivity in a form factor that allows comfortable portability without any sacrifice or compromise in productivity.
- The Versa 6000 Series features an array of multimedia-enabling features that allow even the most demanding presentations to be taken on the road.

Editors' Notes:
The NEC 6030H managed to come out on top as far as overall performance goes. The unit is powered by a 133MHz processor with 256KB of Level-2 cache and 16MB of RAM, expandable to 48MB. The CD-ROM and floppy are removable, and the hard drive is 1.2GB in size. For communication purposes, the 6030H includes a built-in IR port and a 28.8Kbps fax modem.

Hewlett-Packard OmniBook

Suggested Retail Price:
$6,490

What Is HP's View Of The Market?
HP says: "The market is clearly moving toward providing true 'desktop-to-go' functionality in a portable product. The length of time between when key technologies become available on desktops and then notebooks is shrinking. In the past, it took almost a year for processor technology to migrate from the desktop to the notebook. Now it happens in as little as three months. Other key technologies are also rapidly moving forward. Some are unique to the notebook platform, but many are shared by both.

- Key technologies are rapidly moving forward. Some are unique to the notebook platform, but many are shared by both desktop

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Desktop Replacement Notebooks

	AST Ascentia P50	Compucon	Eurocom 6200T	Hewlett-Packard OmniBook 800CT	Hyperdata 759MX	IBM 560
Processor	Pentium 133MHz	Pentium 133MHz	Pentium 133MHz	Pentium 133MHz	Pentium 133MHz	Pentium 133MHz
Cache	256KB	256KB	256KB	256KB	256KB	None
RAM (Standard/Max)	16/40MB	24/40MB	16/72MB	16MB	16/64MB	16/40MB
Screen	12.1 TFT	12.1 TFT	12.1 TFT	10.4 TFT	12.1 TFT	12.1 TFT
Max Resolution	800x600	800x600	800x600	800x600	800x600	800x600
Video RAM	2MB	2MB	2MB	1MB	2MB EDO	1MB
Hard Disk	2.1GB	1.0GB	1.2GB	1.4GB	2.1GB	1.08GB
CD-ROM	Removable	Internal	Internal 8X	External 4X SCSI	Internal 6X	None
Floppy Drive	Removable	Internal	Internal	External	Internal	External
Audio	16-bit	16-bit	16-bit	16-bit	16-bit	16-bit
PC Card Slots	2	2	3	1	2	2
Keyboard	87-key	86-key	86-key	85 key	86 key	85-key
Pointing Device	Touchpad	Touchpad	Touchpad	Pop-out mouse	Touchpad	Trackpoint
Dimensions (WxDxH)	11.38x8.98x2.15	11.6x9.1x2.25	11.6x9.2x2.1	11.1x7.2x1.5	11.7x9.3x2.2	11.75x8.75x1.2
Palm Rest (in.)	2.5	4	3.5	None	2.75	3.1
Weight, lb (kg)	7.1	6.16 (2.8)	8.14 (3.7)	3.74 (1.7)	7.7	4.1
Battery Type	Lithium Ion	NiMH	NiMH	Lithium Ion	NiMH	Lithium Ion
Operating System	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95
IR Port	Yes	No	No	Yes	Yes	Yes
Extras	Internal 28.8 modem	Video-to-TV port	Video-to-TV port		IR mouse	
Windows Benchmarks						
Desktop Publishing	86	N/A	73	85	65	N/A
Desktop Graphics	123	N/A	149	110	84	N/A
Desktop Presentation	N/A	N/A	67	97	75	N/A
Word Processing	90	N/A	71	88	67	N/A
Spreadsheet	108	N/A	90	106	77	N/A
Database	86	N/A	65	79	61	N/A
Overall Sysmark32	N/A	N/A	77	92	71	N/A
Contact	(905) 507-0496	(604) 279-9686	(613) 224-6122	1-800 387 3867	1-800-927-4777	1-800-465-7999
Suggested Retail Price	N/A	$5,199	$5,299	$6,490	$4,264	$6,399
Street Price	$6,060	$5,199	N/A	N/A		N/A
Reseller Price	N/A	N/A	N/A	N/A		N/A
Warranty	3 years	3 years	1 year	3 years	3 years	

*estimated street price

BM 760ED	Impulse DuoNote	KTX 880	KTX 850	NEC Versa 4230	NEC Versa 6030H	Panasonic CF-25	Toshiba Tecra 500CDT
entium 133MHz	Pentium 133MHz	Pentium 100MHz	Pentium 133MHz	Pentium 133MHz	Pentium 133MHz	Pentium 133MHz	Pentium 120MHz
56KB	256KB pipeline	256KB	256KB	256KB	256KB	None	256KB pipeline
6/104MB	16/48MB	8/80MB	16/80MB	8/40MB	16/48MB	8/72MB	16/144MB
2 1 TFT	11 3 TFT	10 4 TFT	12.1 TFT	10 4 TFT	12.1 TFT	10 4 TFT	12.1 TFT
024x768	800x600	800x600	800x600	800x600	800x600	800x600	800x600
MB	1MB	1MB	1MB	1MB	2MB	1MB	2MB
1GB	2 1GB	1 0GB	1.0GB	1 0GB	1.2GB	1.3GB	1 2GB
nternal 6X	Docked 6X	Removable 6X	Removable 6X	Removable 6X	Removable 6X	None	Removable 6X
xternal	External	Removable	Removable	Removable	Removable	Internal	Removable
6-bit	16-bit	16-bit	16-bit	16-bit	16-bit	16-bit	16-bit
	2	2	2	2	2	3	2
5 key	86 key	87-key	87-key	83 key	83-key	87 key	82-key
rackpoint	Touchpad	Touchpad	Touchpad	Touchpad	Touchpad	Touchpad	Trackpoint
1 7x8 3x2.0	11 8x8 6x2 3	11.75x9 25x1 8	11 75x9 25x1 8	11 69x9 4x2.1	11 69x9 49x2 17	11 8x9 3x2.4	11.8x9 3x2 3
9	3 3	3 4	3 4	3 25	3 25	3 75	3 5
7	6 8	6.38 (2 9)	6 38 (2 9)	6 58	7 1	7 1	7 9
ithium Ion	Lithium Ion	NiMH	NiMH	Lithium Ion	Lithium Ion	NiMH	Lithium Ion
Vindows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95	Windows 95
es	Yes	Yes	Yes	Yes	Yes	Yes	Yes
nternal 28 8 DSVD	Internal 28 8 modem Internal 10BaseT				Internal 28 8 modem		Internal 28 8 modem
)	81	67	89	78	85	N/A	66
11	116	66	86	93	116	N/A	89
)4	101	78	98	89	104	N/A	77
l	88	73	102	84	90	N/A	68
7	115	68	105	102	117	N/A	87
r	82	72	84	85	86	N/A	65
l	96	70	91	87	100	N/A	75
800 465 7999	1-800-668-1111	(905) 948 0000	(905) 948 0000	1-800-366 0476	1 800 366-0476	1-800-742-8086	1-800-387-5645
,999	$5 995	$3,499	$4,899	N/A	N/A	$6,000	$6,299
A	$5 495	$3 290	$4,590	$5,129	$6,589	$5,649	N/A
A	N/A	$3,139	$4,139	N/A	N/A	N/A	N/A
	3 years	2 years	2 years	1 year	1 year	1 year	3 years

and notebook systems. These include:

• Increasing performance, Pentium to Pentium Pro
• Improved displays, 12-inch and larger, XGA, True Color
• Bigger RAM, to 128MB, 512KB cache
• Larger hard drive capacity, to 4GB
• More battery capacity
• Modularity for upgrade and service
• Multitude of pointing devices
• Video-conferencing multimedia
• Improved communications, more pervasive wireless
• I/O consolidation, Universal Serial Bus
• Higher density, removable storage, writable CD-ROM
• Improved connectivity, hot docking
• Multiple O.S. support
• Remote service, remote diagnostics."

The company says "Hewlett-Packard has, and will, incorporate into notebook platforms from among these improvements, based on corporate users' needs for them and in time frames that produce competitive price/performance offerings."

The HP OmniBook 800 meets the criteria for the small notebook category, where defining characteristics are: no (internal) floppy drive and weight under five pounds.

Editors' Notes:

The HP OmniBook line of notebooks are well known for their compact nature. This particular model, the 800CT, features a 10.4-inch TFT screen, a 1.4GB hard drive and 16MB of RAM with 256KB of Level-2 cache. The unit comes with an external floppy, a SCSI 4X CD-ROM drive and a docking station with support for "hot docking." It is a very lightweight, yet powerful notebook solution.

AST Ascentia P50

Street Price:
$6060

Marketing Support For Resellers:

• Independent reseller manual
• Monthly mailing list
• 1-800 product support
• Fax-back.
• "Gold Team" for resellers who achieve targets
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Volume Discounts:

They're provided in exceptional cases only.

Demo Unit Availability And Restrictions:

One is available per location for 90 days display, for 10 per cent off.

AST's View Of The Desktop Replacement Notebook Market.

AST says: "The use of notebook computers as desktop replacements has dramatically increased over the past year as notebooks now incorporate the latest processors, sizable hard drives, high resolution color screens as well as CD-ROM drives and other multimedia components."

How Does AST Position Its Multimedia Systems In The Market?

According to the company: With Intel Pentium processing power, the reliability of proven design and aggressive pricing, the Ascentia P50 provides high productivity while maintaining an excellent price/performance ratio.

What Are The System's Strengths?

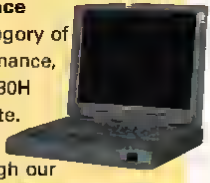
The company says:

• Bright crisp color on a 11.3-inch or 12.1-inch SuperVGA active matrix screen
• Three to four hours with a single Lithium ion battery. (Insert an optional second Lithium battery to increase productivity up to 6.5 hours.)
• Integrated CD-ROM drive, built-in Sound Blaster card and dual stereo speakers.
• 800MB, 1.2GB, or 2.1GB hard drives
• A high-speed infrared IRDA port and PUMA TranXit software.

Editors' Notes:

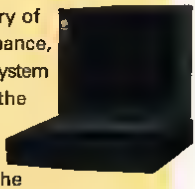
AST is known for making well-designed, high quality notebooks, and the Ascentia P50 is no exception. Powered by a 133MHz processor and 16MB of RAM, the unit also features a built-in 28.8Kbps fax modem, 2MB of video RAM and 16-bit sound capabilities. The floppy and CD-ROM drives are interchangeable. The 12.1-inch TFT screen provides clear images up to 800 by 600 resolution.

Performance



For the category of raw performance, the NEC 6030H gets our vote. It managed to fly through our benchmark suite without any difficulties and obtained the highest score in this roundup.

Price /Performence



In the category of price/performance, we look for a system that delivers the most bang for the buck. In this case, the award goes to Impulse Computer Corp. for its DuoNote. This notebook is, without a doubt, a true desktop replacement. It is feature-rich from start to finish, and managed to come in the top three on our benchmark suite. CW

Steve Halmda, Tim Bingham-Wallis and Jazz Bhoot are CCW's Lab Test editors. They can be reached in Toronto at (416) 535-8404

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The Next Paradigm Shift

"The next change is clearly targeting the business users and the mass-market users who haven't the time or inclination to become computer experts."

by Graeme Bennett

We're on the verge of another paradigm shift that will be at least as powerful and as potentially lucrative as the Internet and multimedia boom that fueled the last round of hardware and software sales.

This time, though, it appears that the software companies have noticed that long-time computer users are already happy with their spreadsheets their word processors and so on. Now that software developers have added the ability for us to play movies in our spreadsheets and bolted on HTML print routines to our word processors — what's next?

The seasoned users already have every feature they need, and more than enough they don't. It is a telling statement to hear that when Microsoft polled users about what they would like to see in the next version of Office that more than 80 per cent of the features requested were already in the existing version of the software.

Job number one, at this point, is for the companies to put the power not just into the software, but into the hands and the mindsets of its users. Indeed, with the coming emphasis on ease-of-use, it may be the seasoned user who finds the new offerings unappealing, and, for better or worse, there is a very real possibility that "better" solutions are not necessarily those that do more. The next change is clearly targeting the business users and the mass-market users who haven't the time or inclination to become computer experts.

The indications are all around. Microsoft has been giving speeches on the subject at various venues, including the Forbes Technology Symposium and to gatherings for companies like Hewlett-Packard. One look at the "Active Help' agents in Office 97 is ample proof that the company is aiming for a friendlier interface — undoubtedly to the chagrin of those who aren't fond of animated paperclips, snuffling dogs and other cartoon-like characters that offer unsolicited help in one's business software suite.

But it's not just Microsoft. A significant percentage of the latest generation of titles I've seen are taking the "Wizard" interface to heart, (Corel's latest offerings are a great example), and using it to good advantage. Those companies that are wise enough to put a "Don't show me this again" button on their wizard interfaces are likely to please the old-timers, too.

It's All About Communication

Microsoft isn't the only company aware of the fact that there are many more people who want to communicate than there are who want to compute, but the company is one of the loudest voices stating this obvious truism. Indeed, with the shift from NetWare and other "vendor-oriented" network environments to networks based in whole or in part on TCP/IP, the things business users have learned over the past few years on the Internet are starting to filter down to the everyday level. These people aren't going to readily accept the clumsy and complicated systems that people have grudgingly put up with during the DOS-and-Windows 3.x era.

Sure, "Zero Administration Windows," if it ever becomes more than a marketing slogan, could lessen the need for computer consulting and troubleshooting services. But it's safe to say there will continue to be companies who find considerable value in training and on-site services.

The point is that the customer base destined to be using the next generation of computers is a new kind of customer — one who will expect a higher level of product satisfaction. The problematic products that clutter many dealers' shelves today, with their hardware hassles and buggy software, are the Old Way. The next-generation of customers is going to expect more.

Admittedly, it's safe to say there will continue to be plenty of opportunities for the inevitable bugs and problems to surface. But whether or not we see computers that approach the 'zero administration' ideal in the coming year, I think we'll be seeing more and more of the fruits of the Active Desktop and the Wizard-driven interfaces that typify today's most user-friendly titles.

If these add up to self-updating operat-

ing systems and software or hardware that starts to rightfully deserve the label "intelligent," you can bet that the inevitable marketing machine will be targeting the users that need these innovations the most

It is up to you to ensure that your business model is flexible enough — and your communications systems and product lines friendly enough — to be able to meet the needs of these new consumers

They want solutions, not computers.
They are communications-driven.
They favor mainstream standards.
The out-of-box experience is important.
They will favor systems with reduced total cost of ownership.

A good example of a market segment that has been singing this tune for a long time is education

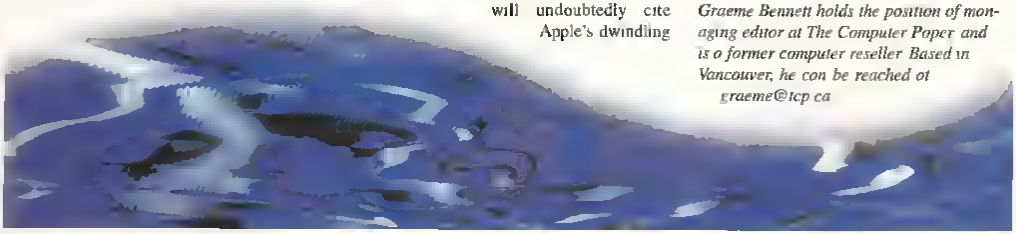
For many years, Apple Computer Inc. has made hay with its emphasis on out-of-box experience and (sometimes) superior ease-of-use and long-term cost of ownership. Now that the original and subsequent-generation Apple computers that were sold into many schools are up for replacement (and, despite constant price-cutting and ever-diminishing margins, high-end Macs always seem to cost more), a significant number of schools are looking at their upgrade options — and they aren't just looking at Macs.

There always seem to be a few Mac evangelists on the computer support staff in any school, and they can usually make a compelling case for continued adoption of that platform, citing software investments, maintainability, and any or all of the above points.

Although some decision makers will undoubtedly cite Apple's dwindling market-share and operating system uncertainty as reasons enough to switch, these are only a few of the issues nagging at the Mac managers out there. PC manufacturers like Compaq and IBM are focusing their ad campaigns on areas that Apple has long been strong in, and I think it's a good strategy. Touting easy set-up, rich multimedia and Internet functionality, they are capitalizing on the increasingly apparent fact that Apple, like Commodore and Atari before it, hasn't done a good job at marketing its message.

Apple has always created products important enough that it commanded more attention than its market-share would seem to warrant. With the emphasis on "no-hassle computing," its position as the harbinger of the PC's future remains intact. CCW

Graeme Bennett holds the position of managing editor at The Computer Paper and is a former computer reseller. Based in Vancouver, he can be reached at graeme@tcp.ca



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Signature _____ Date ____/____/____
(must be signed to be valid) M D Y

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❑ Yes ❑ No

Which best describes your job title group? (check one only)
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❑ Channel, retail, value added resellers and managers
❑ Purchasing and merchandising managers
❑ Product development managers
❑ Computer consultants
❑ Technical management
❑ Design, system and application engineers
❑ Marketing, sales managers

Which best describes your firm's primary business at your location? (check one only)
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❑ Mass merchandiser
❑ Consumer electronics/office machine retailer
❑ Distributor/wholesaler/hardware manufacturer/OEM
❑ Software developer
❑ Systems integration/software consulting
❑ Government purchasing agents
❑ Computer maintenance/service company
❑ Hardware/software retailer
❑ Other third party and allied service firms

The systems my organization integrates or resells are based on the following: (check all that apply)
❑ DOS/Windows ❑ Networking
❑ OS/2/Compatibles ❑ Unix
❑ Windows NT ❑ Macintosh

What is the number of employees at this location? (check one only)
❑ 10,000 or more ❑ 250 - 499
❑ 5,000 - 9,999 ❑ 100 - 249
❑ 2,000 - 4,999 ❑ 20 - 99
❑ 1,000 - 1,999 ❑ Less than 20
❑ 500 - 999

What is your firm's approximate gross annual sales? (check one only)
❑ Over $50 million ❑ Over $5 million - $10 million
❑ Over $25 million - $50 million ❑ Over $1 million - $5 million
❑ Over $10 million - $25 million ❑ Under $1 million

All questions must be answered. Incomplete cards will not be processed. The publisher reserves the right to determine qualification.

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Tax Tips That Will Save Resellers Money

By Douglas Gray

As a retailer, you work hard to make a living in a very competitive market. You want to make sure that you have used every legal means possible to save on tax, to enhance your after tax net income.

Here are some timely tips to help you in the above objective. In all examples given, make sure that you speak with a qualified professional advisor with expertise in the area. This would include a professional accountant (such as a chartered accountant or certified general accountant) and in some cases a lawyer as well. But here are some general guidelines.

Income splitting

This is classic way of saving on taxes. Basically, it means that you arrange your income to have it divided amongst other family members, be it your spouse and/or children. That way each of the individuals will be paying less taxes, because of lower marginal tax rates. The aggregate taxes paid will therefore be less than what you would pay if all the money went into your hands. Here are some examples:

- **Spousal RRSP.** The 1996 RRSP deadline is March 1, 1997. Limits are 18 per cent of your 1995 "earned income" to a $13,500 maximum. Rather than put the RRSP in your own name, you can put up to 100 per cent of your RRSP annual contribution into the name of your spouse. This is assuming that your spouse has less taxable income than you do. You take the tax deduction from your taxable income. The advantage to this arrangement, is that when the time comes to collapse the RRSP, (take out the funds, it will be taxed in the name of your spouse, who presumably is still in a lower tax bracket and therefore will pay less tax.)
- **Corporate shares.** By splitting your shares with your spouse and children, you can reduce the amount of tax paid in aggregate because the lower the income (from dividends) the lower the marginal tax rate. This point was covered above.

For example, you could have 51 per cent of the shares and your spouse and children could share the remaining 49 per cent in various portions. You want to deal with the issue of control by having your shares, for example, as Class A voting shares while your spouse and children have Class B non-voting shares.

You would also want to have the right to buy back the shares at any time from the other shareholders at the original or some other set share value. There are various formulas you can consider. You also want to get professional advice if your children are minors and don't pay fair market value for their shares. Their dividend income could be attributed back to the business owner for tax purposes.

- **Family trusts.** If you set this arrangement up carefully, and there are several options, you can keep more tax free money in the family unit. For example, if your spouse and children are holding shares in your company through the means of a family trust, and have no other family income, they could each receive up to $23,756 annually in dividend income totally tax-free. Sounds rather attractive doesn't it? Normally, how it is structured is that you hold Class A shares (voting) in your own name and the Class B (non-voting) shares are held in the name of a family trust. This is set up through the assistance of your lawyer and accountant. If you own an incorporated company that intends to or currently pays dividends to a spouse or children who are not actively involved in your business, ask your professional accountant about the recent Neuman court case decision and how that would affect your situation.

There are other types of creative tax benefit arrangements you can discuss with your accountant to minimize the tax hit. One example is doing an "estate freeze" of the shares of your existing corporation and converting them into preferred shares and then issuing new shares with a nominal fair market value of say $.01 each to your children. This could be with the same corporate name, or forming a new corporation for tax purposes. Again, you need expert advice on how to do this.

- **Paying family members to work in your business.** If you are not already doing this, consider the benefits. You can pay family members such as spouse or children, reasonable salaries or hourly wages for actual services.

No tax is paid on wages up to $6,456 if there is no other source of income. Those who receive the money can make RRSP and CPP/QPP contributions. You can probably think of ways that you can utilize the skills and services of your family members and pay them accordingly.

Here are some additional timely tax tips that you should consider discussing with your accountant.

Consider using up the $500,000 capital gains exemption.

This is still available for qualifying small business corporations but could be reduced or eliminated in any spring federal budget without any forewarning. Any such change would be effective as of the date of the budget, which is usually about the third week of February. It could therefore be a use-it-or-lose-it situation. Consult your professional advisors about "crystallizing" your shares to look in the significant tax savings. It could take a few days or weeks to get your company technically eligible. For example, 90 per cent of the assets of the business have to be used for the purpose of creating income. So you couldn't have more than 10 per cent of the fair market value in cash, as of the day that you "crystallize" the shares.

Formalize a shareholders' agreement for life insurance.

If you are relying on corporate-owned life insurance to fund the buyout of a partner's shares from their estate on death, there is a deadline you need to deal with. You have until March 31, 1997 to formalize a shareholders' agreement which covers the insurance plan. If you don't have this, there could be a major tax bill at the time of death. CDW

Douglas Gray, LL.B., has had extensive experience as a lawyer specializing in small business. He is also a speaker and author of 15 best-selling business books, as well as an investment software program. His books include The Complete Canadian Small Business Guide and Raising Money (both published by McGraw-Hill Ryerson) and Marketing Your Product and Start and Run a Profitable Consulting Business (both published by Self Counsel Press).

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FIRST TIME IN CANADA

Telling Your Story

by Mark Langton

How do you communicate your message effectively?

Public relations is a phrase used loosely by many people in the industry, often by those who don't really understand the concept But PR is an important component of an overall marketing plan, and one that even small- and medium-sized computer resellers and retailers can leverage

Simply put, public relations is the communication of the messages you want your audience to hear, in an objective and meaningful way

It can be difficult to relate the benefits of a new software application or the latest piece of computer hardware through an advertisement And it's impossible to portray that ad as an objective statement

Unlike advertising, a controlled medium that minimizes dialogue with your target audiences, public relations is open to human interaction, emotion, and interpretation Both advertising and PR must be part of your marketing mix, but each will help you achieve a different end.

Consider the value of media attention, for example. Your customers want industry experts to digest and interpret the vast volume of computer industry news for them, offer them tips and recommendations, and ultimately influence their buying decisions (Importantly, those decisions are based on recommendations from unbiased industry professionals.)

Good technology PR is vital in communicating your (and your vendors') news and information, which is often of a complicated and technical nature, to the media, analysts, and consultants, who digest it, evaluate it and offer impartial advice to customers. PR packages and provides the information so that objective decisions can be made by industry influencers

PR is all about telling your story in an objective way to the audiences you need to reach

The story telling, the information provision, is all important. If someone doesn't know about your company and products, and their positive attributes, how can they be expected to report on them accurately, if at all?

A common marketing mistake is to see yourself the way you think you should be seen, rather than how you're really seen by outsiders Computer dealers constantly seek attention from customers, competitors, and the media, and naturally become frustrated when they feel they've been ignored But the media won't pay the right amount — if any — attention to you if you don't offer them the information

The most obvious things are frequently the least recognizable It often takes an outside perspective to identify and communicate those marketing gems.

PR is often best handled with the help of a third-party that can approach challenges with the objective perspective of an outsider How do you know if you need professional PR assistance? A good rule to follow is this: if you're currently benefiting from having your advertising done by an ad agency, you should look into a public relations company to assist with your PR needs

But any company, no matter what marketing budget it may or may not have, can implement a communications program that ensures their audiences are kept well informed

Start by developing a database of influ-

> "Successful businesses invariably are the ones that *effectively* communicate their own unique story."

But is just simply offering the information enough? No, and this is where information packaging comes in Successful businesses invariably are the ones that effectively communicate their own unique story Here's how to do it

- Identify the unique strengths of your business
- Assess how your customers and others see you
- Is there a contrast between how you're seen and how you'd like to be seen?
- Consult respected experts about how to communicate your story
- Create and implement a communications plan that supports your business plan

Recognizing and communicating the unique differences your company has over the competition is key to marketing success

ential contacts you need to reach, then make sure you correspond regularly on your company's newsworthy activities In particular, try to recognize interesting customer success stories that you think would be of interest to particular media outlets

PR is all about having your story heard by the people who need to hear it, so that your company benefits

If your business prospects haven't heard about you, then how can you expect your company to be on their shopping list?

Mark Langton is a senior consultant with of Environics Communications Inc., a Toronto-based public and government relations agency delivering solutions for the computer industry He can be reached by E-mail at mlangton@environics.ca

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The Personal Workstation —

A Reseller Goldmine?

by Don Maynard

Whenever the price of high-performance technology drops dramatically, not only does a whole new product category emerge, but also a substantial new opportunity presents itself for resellers.

This what's happening in the personal workstation market-place — where recent product introductions are providing comparable performance to traditional workstations at one-half to one-third the cost.

Offering CPU and 3-D graphics performance and large memory support that before could only be found in traditional RISC (UNIX) workstations costing tens of thousands of dollars more — personal workstations based on high-speed processors now satisfy the processing needs of markets ranging all the way from business and technical spheres to creative industries.

But power and price are only part of the story.

Market Shift

Both UNIX and Windows NT are proven 32-bit environments which exhibit superior security and system management characteristics over traditional DOS and Windows configurations. Personal workstations also have the ability to take advantage of multiple processors to increase the throughput of compute-intensive, multi-threaded applications.

Some of these markets for the personal workstation include are technical, including the CAD and MCAD fields. Others are for business like financial modeling. Still others are found in the burgeoning creative arena, like animation and multimedia. Specialty applications like geographic information systems are also ripe markets for the personal workstation, for resellers with the expertise to seize the opportunities there.

"For business, the personal workstation brings a tremendous increase of power to the desktop, without a stupendous increase in price."

Enter Windows NT

Personal workstations, by running Windows NT, now offer as many as 1,500 technical applications designed for that operating system — applications which include Microsoft's SoftImage, SolidWorks, Parametric Technology Corp.'s Pro/ENGINEER, Bentley Systems' Microstation manager, Autodesk Inc.'s AutoCAD and EDS Unigraphics — among others. And with the ability to run Windows NT on a workstation, the technical user no longer has to switch to another machine just to perform traditional office applications.

That's a huge shift in the market — and one that benefits resellers.

Tapping Into The Design Msrket

Part of the secret to the personal workstation's utility is its superior graphics capabilities. Using the latest in graphics accelerators, personal workstations offer solutions ranging from fast, inexpensive 2-D drafting to accelerated 3-D solids modeling with texture mapping support.

Manufacturers using a personal workstation will find its graphics capabilities particularly useful in speeding a product's development time, getting it to market faster. And the efficiency of product development will be further enhanced by Windows NT's capability to perform office and documentation tasks on the same machine where the designing took place.

Csshing In On Knowledge Workers

For business, the personal workstation brings a tremendous increase of power to the desktop, without a stupendous increase in price. Allowing individual employees to perform such functions as complex financial modeling, the personal workstation helps fulfill the oft-repeated promise of empowerment for the knowledge worker.

"Perhaps some of the most exciting and creative work with the personal workstation is being done in the fast-emerging world of multimedia and animation."

There's no doubt about it, new doors are being opened for industrious resellers in a whole new range of sectors. But perhaps some of the most exciting and creative work with the personal workstation is being done in the fast-emerging world of multimedia and animation. Sony Pictures ImageWorks, for one, is using personal workstations to perform pre-visualization work for the design and creation of motion pictures. Sony is just one of the companies whose animators, special effects artists and title developers are using the technology as an entertainment authoring tool.

The emerging personal workstations, with their utility and impressive price/performance, add value to those businesses that use them. Resellers who, through their expertise add value of their own, are bound to reap a significant reward. CW

Don Maynard is the workstation marketing manager for Markham, Ont.-based Digital Equipment of Canada Ltd. He can be reached at donald.maynard@tro.mts.dec.com

Web live video plays today on standard phone lines

(NB) — VXtreme Inc says Internet users do not have to wait for special phone lines or new modem technologies to experience live video on the World Wide Web. The company's new Web Theater is a complete client, server, and production package which allows nearly television-quality video to be delivered through 28.8Kbps modems.

Saying Internet video has been too complicated, too jerky, and poor in quality, VXtreme's product line manager, John Kelly said, "We have solved those problems with Web Theater. This is the first full audio/video production, client/server video package for the Internet, intranets, and local area networks (LANs) which delivers video that can be produced and deployed quickly."

The Web Theater production tool also allows Web developers to integrate video into other Web page events. "Web Theater does not just let you put your video on a Web page for people to view," continued Kelly, "The production tool is capable of triggering other events on a Web page, so that you can have a complete experience. At any point in a video, you can open a Java applet or open a related graphic."

Web Theater video is displayed in a window about one-eighth of a computer screen. Kelly said the standard frame rate is about 10 to 15 frames-per-second (fps) "which keeps the resolution at a very good level."

There is good news for Internet users. VXtreme Player is free and available today at http://www.vxtreme.com. At this time the player is for Windows 95 and Windows NT users only. However, Solaris and Macintosh versions are in development. Sample video can be viewed at the site.

On the server side, Web Theater runs on Sun Solaris, Silicon Graphics IRIX, and Windows NT. VXtreme's compression and decompression (codec) technology is capable of a 500:1 compression ratio which accounts for quality delivery through 28.8Kbps modems and relatively easy storage requirements on a server.

Speaking of the possible uses of Web Theater, Kelly said, "The applications are extensive. From an executive broadcast to a product demonstration to a feature film promo, uses and targeted markets could go on forever."

For interested Web designers, a Web Theater Trial Pack is available for a 30-day period. Commercially, the Web Theater starter kit is available immediately at an introductory price of US$1,995 and includes a five-stream server, one copy of the Web Theater Producer, and 25 licences for the Web Theater Client. Web Theater Server is priced on a per-stream basis, which ranges from US$1,495 for a five-stream version, to US$16,995 for a 100-stream version. Separately, Web Theater Producer is available for US$149.

System Commander 3.0 is a multi-OS utility

For PC users who find that they need to work in more than one operating system on a single computer, the options are often fairly limited: either work in a low-efficiency emulation mode with particular applications, or, with difficulty, try to switch between two operating systems (such as Windows 3.1 and OS/2).

Recognizing the demand for a simple and flexible way to accommodate a large number of operating systems on a single computer, San Jose, Calif.-based V Communications Inc. has released System Commander 3.0, "a utility which lets you add multiple operating systems to your PC. Users can choose to install any combination of up to 100 operating systems, including Windows 95, Windows 3.1, Windows NT, DOS, OS/2, SCO UNIX, Solaris, Linux, or any other OS that runs on an Intel-based system," according to V Communications.

In particular, System Commander is aimed at easing the transition between Windows 3.2 and Windows 95. After installing the utility, whenever the system is started up, the user is given a menu of OS choices at startup. The utility provides this option before any OS has started to run.

System Commander is easy to install and use; doesn't require users to partition their hard drives into a partition for each OS, and comes with a boot-time editor to allow users to change CONFIG.SYS, AUTOEXEC.BAT or Windows .INI files before selecting an OS, says the company.

IBM annouces the Cluster Internet Powersolutions for AIX

(NB) — Electronic commerce means relying on your computer systems and networks to deal with your customers, and that means those systems should not go down. So IBM believes its own customers will be interested in new servers that use clustering to provide high availability.

The IBM Cluster Internet Powersolutions for AIX are based on the IBM RISC System/6000 midrange hardware and come with the company's High Availability Clustered Multiprocessing (HACMP) software and a selection of Internet applications pre-installed. The systems run IBM's AIX Version 4.2, a variant of the Unix operating system.

The pre-installed Internet applications include, depending on the configuration the customer chooses, IBM's Internet Connection Secure Server or Netscape's Proxy Server 2.0 and/or FastTrack Server 2.0.

Spokesperson Rob Cronin said that companies moving into electronic commerce applications that they consider mission-critical will be a key market for the new servers. Corporate intranets will also be a possible market, he said.

IBM said catalog merchandising through Web pages and on-line stock brokerage services are among the potential applications.

IBM Cluster Internet Powersolutions for AIX are to be available in late January, with prices ranging from $60,000 to $63,000, company officials said. IBM's RS/6000 division is on the Web at http://www.ibm.rs6000.com.

Fluke Cablemeter receives Underwriters' accuracy certification

Fluke Electronics Canada Inc. announced its release of the DSP-100 Digital Cablemeter, a handheld electronic device for testing line quality in computer networks. According to tests by Underwriters' Laboratories, an independent, not-for-profit product safety testing and certification organization, the DSP-1000 "fully complies with all requirements set forth by the Telecommunications Industry association's (TIA) TSB-67 standard for Accuracy Level II for both Basic and Channel link configurations, while meeting strict safety regulations," Fluke claimed.

DSP-100 Digital Cablemeter

Fluke is a manufacturer of compact, professional electronic test tools. Among its other computer network testing products is the new Fluke 1-Touch diagnostic unit — a compact device that can help a service technician perform a wide range of diagnostic and troubleshooting operations on 10-baseT or 100-baseT Ethernet networks.

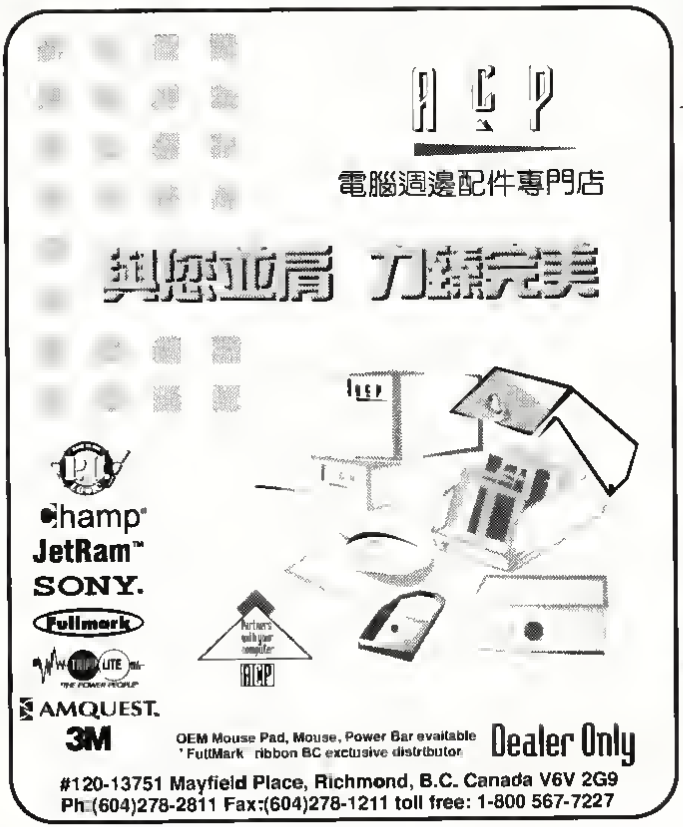
Quantum adds solid state disk

Quantum Corp. has announced an expansion to its line of 3.5-inch solid state disks. A solid state disk is a storage device that employs large amounts of volatile or non-volatile storage memory, which greatly speed up the performance of high-end RAID data storage architectures, by augmenting read cache capabilities.

Without solid state disk caching, RAID systems often deliver slow access to data. The new solid state disk models, the ESP3053R-V — with up to 536MB of capacity, and the ESP 3080R-V, with up to 804MB of capacity, are the first such devices to provide the single connector attachment (SCA-2), for direct hardware connection in a storage subsystem without the use of cables.

According to Bob Christ, Quantum's manager for solid state systems, "There was previously no easy upgrade path for RAID subsystems vendors to increase their read cache sizes because of the physical limitations of cache controllers. Quantum's volatile solid state disks provide that path and can be integrated quickly, painlessly, and cost-effectively."

The new units' prices start at less than $27,000.



MGI Video Wave was finalist at Comdex

Video Wave For Windows 95 — Canadian graphics software publisher MGI's new video editing application, was chosen as a finalist for 'Best Product' at the recent Comdex Las Vegas trade show, and was judged 'Best Windows Multimedia Product' at the show as well

As demonstrated to *CCW* at the Silicon Northwest technology showcase during Comdex, Video Wave is an inexpensive, easy-to-use program that allows even novices to edit digital video footage and enhance it with titles animations and special effects The program matches many of the features of the higher priced, more complicated Adobe Premier video effects program, and when released in early 1997, will provide a strong incentive for many PC users to venture into the formerly daunting field of digital video

Video Wave requires a fairly powerful Pentium PC system, and a video capture device to grab segments of raw video The software program employs a powerful tool set and an excellent graphical interface to let the user create slick, customized video presentations

MGI, whose founders include some senior ex-managers from Delrina and AST Canada, has previously released a similarly powerful and simple to use image editing program for still images, called PhotoSuite

Intuit Canada's new QuickBooks 4.5 Software includes payroll functions

Intuit Canada Ltd recently introduced QuickBooks 4 5 for Windows The new version is fully Canadianized with automated GST/PST tracking and Canadian payroll options

The payroll features are integrated in the main program and offer a full set of tools, including the ability to calculate earnings, deductions, withholdings, and a Tax Table service option that keeps users updated on regulatory changes A series of "You and Your Industry" features allow customization for particular kinds of businesses, such as consultants or retailers

An enhanced version, QuickBooks Pro 4 5, includes professional estimating, time tracking, and automated job costing tools, perfect for users who need to bill by time or by project The CD-ROM version of QuickBooks Pro 4.5 includes a copy of CD Business, a searchable directory of over 1 2 million Canadian businesses.

QuickBooks 4 5 has a street price around $139.95, while QuickBooks Pro 4 5 is $249 95 Intuit is also gearing up to release its QuickTax software for the oncoming 1996 tax season, by offering a headstart version of QuickTax and QuickTax Deluxe. The headstart version allows users to do the most complete possible preliminary tax return pending release of final Revenue Canada forms and regulations Headstart owners will automatically be shipped the final version of QuickTax as soon as it is released. CCW

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Data General's Oswell now national marketing manager

Data General (Canada) Co., of Mississauga, Ont., has announced the appointment of John Oswell as national marketing manager. He will oversee all marketing, advertising and public relations activities for Data General's product lines in Canada.

Oswell joined Data General Canada in 1985 and has had a variety of marketing and managing positions — most recently he was marketing manager for the AviiON line of server products. Prior to that, his 20-year technology career included positions at ICL in the U.K. and Canada, and at Olivetti.

Pat Ryan, general manager of Data General (Canada) said in a statement: "John is a strong addition to our management team. His industry expertise and extensive experience in product marketing will help position Data General for continued market expansion."

ServiceWorks has appointed Bill Corcoran to marketing

Vancouver's ServiceWorks Distribution Inc. has announced Bill Corcoran is the company's new coordinator, marketing programs — Western region.

As well as developing core marketing programs for ServiceWorks, he will be responsible for facilitating business partnerships within the Western Canada reseller community.

He was most recently in sales with Mentel Canada's Vancouver office, and has more than 10 years experience as a commercial sales manager for a large Canadian office supplier.

Bay Networks' CFO wil resign

Bay Networks Inc. says William Ruehle will resign as executive vice-president and chief financial officer — effective on the appointment of a successor. The company says an active search is underway.

Ruehle joined SynOptics Communications Inc. in 1987. The company merged with Wellfleet Communications Inc. in 1994 to form Bay Networks. Said Ruehle in a statement: "I decided that after nearly 10 years it was time to transition to something new. Working with a company as it has grown from a small private company to a market leader in a significant growth industry has been a great experience, and one that I would like to have the opportunity to repeat."

David House, chairman, president and CEO of Bay Networks said: "The company is indebted to Bill Ruehle for his role in building SynOptics from a US$2 million company through its merger with Wellfleet to today's US$2 billion Bay Neworks."

Borland names new CEO

Borland International Inc. of Scotts Valley, Calif., has announced the appointment of Delbert Yocam as chairman and CEO.

Yocam previously served as executive vice-president and chief operating officer from 1986 to 1988 at Apple Computer Inc., and as president of Apple Pacific from 1988 to 1989. He was president and chief operating officer of Tektronix from 1992 to 1994.

"Del brings to Borland the management experience that we have been aggressively seeking to lead the company and accelerate its transformation," said a statement from William Miller, who had been serving as chairman of the board of directors at Borland. "We look forward to utilizing Del's successful management experience to improve Borland's operations, and in particular, the execution of its strategic directions. With three significant product releases planned for the next six months, Del's experience in product launches will be immediately valuable."

Tony Bone joins MTW Solutions

Markham, Ont.-based MTW Solutions Online Inc. has appointed Tony Bone to the position of national sales manager.

He was previously director of sales with accounting software firm Q.W. Page Associates Inc., also of Markham, and had been with that company for 11 years.

MTW products an accounting software package called Integrated Office Accounting. Bone, in his new role, will be responsible for building the company's reseller program, handling sales and marketing activities, and overseeing tradeshow and demo activities. CCW

Take our Reader Poll!
Page 24

CALENDAR

Jan. 13 — Winnipeg
Jan. 15 — Edmonton
Jan. 16 — Calgary
Jan. 22 — Vancouver

Globelle's TechKnow Train
Roadshow for resellers
http://www.globelle.com/main/canada/events/

Jan. 14 — **ITAC Board of Governors**
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Jan. 27-28 — **Seminar: GUI Design Workshop — Designing Effective User Interfaces**
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Dallas
http://www.dciexpo.com/gui/

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Feb. 14-16 — **Computer Fest '97**
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In Search Of The Ideal 100MB+ Floppy Drive

by Doug Alder

I would love a solution to the medium-format removable disk wars.

As a publisher of 10 different monthly computer publications, our five cross-Canada offices are expected to keep up with all the various media formats out there. This month, one of our sales guys requested a 200MB Syquest format drive because a number of agency clients use this format and were trying to send in ads this way.

The salesperson was complaining that our company was not meeting the basic standards offered by an imagesetting service bureau. While I agree that we should be able to read these things, there are just so many formats kicking around.

Even our own service bureaus don't support all the formats, and we have ended up sending over hard drives on occasion. I don't know that it reflects so much on us — or even our service bureaus for that matter, as on the chaos in the industry around formats.

Should we really need to get one of each of these? Zip Drive; Syquest 44; Syquest 88; Syquest 200; Iomega Bernoulis; Magneto Optical 128; MO 230; MO 640; Nomai 540; Jaz 1GB; and LS-120?

In the early days of desktop publishing, the Syquest 44 became a de facto standard and you could reliably enter almost any service bureau in the country and be assured you could get your media read.

A couple of years ago, I thought that MO technology would fill the role of standard higher capacity devices. Alas, it was not to be, although they have progressed, the MO drives have been too expensive and not marketed well. Today, with the boom in proprietary alternatives, the industry lacks a standard. If publishers and service bureaus are suffering, then the general public must also have a problem.

Actually the last drive noted on my list, the LS-120, which I saw on display recently at Comdex in Las Vegas, looks like it had a good chance of filling the void. It is backwardly compatible with 720KB and 1.44MB floppy disks, and offers 80 times the storage of an existing floppy drive.

In the recent void, the Zip drives with its low price point, has flourished. But I don't like the proprietary nature of this unit, despite the fact that Epson is also doing a version of it now. The single source design means that the pricing on the media stays artificially high. Iomega, with its Zip technology, hasn't done its homework in terms of making its product an industry-standard, bootable device. The LS-120 seems to be much more on track and doing some of the right things to establish a new standard.

Big Names, Big Vision

A consortium led by Compaq, 3M, OR Technology and Matsushita are pushing the LS-120. This group claims that both the drive and the media will be manufactured by a number of vendors, presumably leading to competition and a reasonable price point for the consumer on the media.

The acronym LS stands for laser servo technology. One of the bonuses of the drive is that it reads existing 1.44 floppies twice as fast. On its own newer media, it draws data in at five times the rate of existing floppies. It offers transfer rates of up to 4MB/sec, when LS-120 media is used, and the 120MB available on the diskette is not compressed.

> "The LS-120 looks like it had a good chance of filling the void. It is backwardly compatible with 720KB and 1.44MB floppy disks, and offers 80 times the storage of an existing floppy drive."

If the drive ships in a system, you can boot from this drive. But with upgraded systems, because the drive uses the IDE/ATAPI interface — which cannot be connected directly to the floppy cable, you may need to keep a separate 3.5-inch floppy drive as an alternative. BIOS vendors such as Award and American Megatrends are starting to offer support for the drive. OS/2, Unix and Macintosh support is all promised.

We should see the drive sell for around $300 at retail, and the media for about $25 per diskette. Recently Compaq Computer Corp. announced it will be offering LS-120 diskette drives to North American users as a standard feature in some of its Pentium-based Compaq Deskpro models.

In regards to add-on or internal drive packages for computers in addition to Compaq, look for O.R. Technology's a drive which distributes through Ingram Micro. A slim-line model for notebooks is also in the works.

How Many Do We Need?

An obvious concern is the capacity to produce. Many resellers will recall the difficulty they had getting their hands on Zip drives when those first became hot sellers.

Matsushita, the primary manufacturer of the LS-20 drives, claims to be at volume production of the drive now, and will be able to ship a half a million drives a month by mid-1997. Given that something like 80 million 1.44MB floppies are currently shipped each year, this still may not be enough to replace the floppy, but at this point even if all higher-end systems get the drive, I would be happy.

But I'd be a little more confident in endorsing this product if this consortium had done what Microsoft did to launch its Windows CE device, or made a show of it like the IR group or the USB bus people did. Both these groups rented a booth at Comdex to highlight the technology and lined up all the participants in a show of strength. With the LS-120, it was on display in individual vendors' booths, but no consolidated booth was there to suggest that it could become an industry standard.

It could at least become a Canadian standard if Canadian PC manufacturers were to get behind something like this. Still, signs of a building critical mass are suggested by recent developments.

Burning Slowly

In the meantime, the most reliable thing we have found currently is to burn a CD-ROM, with a CDR drive.

The upside is that everyone has a CD-ROM in their computer now.

The only downside is that burning a CDR is very s-l-o-w. CW

Web sites to visit
http://www.compaq.com
http://www.mmm.com

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